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PUBLIC HEALTH REPORTS.

Sanitary prophylaxis of pest (bubonic plague) and the modification necessary in quarantine regulations.

[The following is extracted from a report of the proceedings of the Eleventh International Congress of Hygiene and Demography, held at Brussels, Belgium, September 2-8, 1903, by Passed Assistant Surgeon J. M. Eager, Public Health and Marine-Hospital Service, detailed to attend the congress.]

The next question brought before the section was that of the sanitary prophylaxis of pest and the modifications necessary in quarantine regulations.

DOCTOR CALMETTE'S REMARKS.

Dr. A. Calmette said in substance that to-day, owing to the present state of knowledge of the pest bacillus, one can look calmly on the possibility of the importation of bubonic plague into Europe. The moment has come, the speaker said, to suppress the employment of Draconic measures invented as a defense against its importation. Quarantine, which has undergone successive attenuations at each international sanitary conference during the past half century, must disappear. Henceforth, it will no longer be justified either against yellow fever, cholera, or pest. Doctor Calmette said that as far as pest is concerned he hoped to prove this statement in his report. It is well known that, though plague can propagate itself from man to man, the principal agents of contamination are rats by intermediation of the fleas that infest them. Direct transmission from man to man is above all effected by nasal, bronchial, and throat secretions in which the bacillus of pest abounds. Roux and Batzaroff have proved how easy it is to produce pneumonic pest in such susceptible animals as the rat, the rabbit, and the monkey by simply treating the nostrils with cultures of pest or with expectorated matter containing the microbe.

In recent epidemics in Europe it has been shown that contagion has been conveyed by practically the same mechanism in the persons of attendants or those sick with the pest (Vienna, 1898; Glasgow, 1901), or in those having contact with cadavers of pest patients. One must admit also that soiled clothes, garments, and other objects belonging to the sick can transport to a distance and retain for many months living and virulent germs of pest. One of the most striking examples of this was the importation of pest from Mauritius to Durban, Natal, in 1900. A Mauritian, in order to avoid too long a sojourn in quarantine, continued his voyage to Port Elizabeth, so as to make a trip sufficiently long to be immediately admitted to free pratique. April 1 he arrived

at Durban. A month and a half later, May 13, he opened a part of his baggage. Three days later he fell ill and died May 18. Many other facts show that articles soiled with pest bacilli, even when they have been closed in trunks for several months, are capable of transmitting pest. Bags containing cereals and various merchandise in which pest-infected rats find lodgement are equally dangerous. It has happened several times that men employed in the debarkment of such merchandise have fallen ill after having slept on bales recently landed or on empty bags.

It is evident, then, that the superficial disinfection of baggage and the cargo of vessels such as now practiced at quarantine stations is altogether insufficient and inefficacious. On board ships it is the rat that is most frequently responsible for the spread of pest. The fact of having touched the cadavers of rats is a particularly frequent cause of infection. In cities pest finds special lodgment in dirty quarters of the town and in houses in the neighborhood of collections of filth, sewers, docks, and storehouses for grain—places where rats abound. Among the sick cared for in hospitals one can often find the trace of recent stings of parasitic insects, such as fleas and bedbugs, the point of departure of a lymphatic vessel leading to a bubo. Finally, laboratory experiments demonstrate that to infect healthy rats it suffices sometimes merely to place them in a case or jar in which there are fleas that have deserted the cadaver of a rat dead of pest. It has been questioned whether the fleas of rats are capable of biting man, but the recent work of Gauthier and Raybaud (*Revue d'hygiene*, Paris, 1903), and of Carlo Tiraboschi have put this important question beyond controversy, and it is now perfectly established that certain species of rat fleas bite man.

The fleas met with most commonly in rats belong to several species. Their scientific determination and their rôle as agents for the transmission of pest has been well studied in the memoir of Tiraboschi (*Archives de parasitologie de Blanchard*, 1903). In the gray rat (*mus Decumanus*) and the black rat (*mus ratus*), the human flea (*pulex irritans*) and the dog flea (*teenocephalus serraticeps*) are often found. Both bite man. Rats also carry parasites of other species, which even after fasting for three or four days refuse to bite man. Among these, Tiraboschi mentions as the most frequent, in Italy at least, *ceratophyllus fasciatus*, *ceratophyllus italicus*, and *ctenopsylla musculi*. Mice, though very sensitive to inoculated pest, do not appear to be spontaneously affected, at least in a proportion comparable to rats, in times of epidemics. There are not found in their fur the species of fleas that bite man or dogs. On the contrary, there exists in Mongolia and in the region of lake Baikal, the *Arctomys bobac*, a gnawing animal closely resembling the marmot, which possesses a great sensibility to pest and appears to transmit the malady to man with great facility; but the parasites that aid in this transmission have not been determined. Everywhere it has been observed that during prevalences of pest among rats, preceding or accompanying the disease among men, rats migrate en masse as soon as mortality begins to strike them. These emigrations of rats have been in all cases the sole factor in the dissemination of the malady. It has also been widely remarked, in the course of the last few years, that rats embark in crowds in the ports of the Indies on vessels moored along the quays. They go ashore in large numbers at night.

All the rats that come from the Orient belong to the species *Mus decumanus*, a species so invading and prolific that they completely drive out of the European cities the small black rat (*Mus ratus*), which is now hardly found except in inland places. On board vessels in the Mediterranean it frequently happens that pest rages among the rats without a single case of the disease being observed among the crew or passengers. This is a very great danger, because these vessels having no sick men aboard and not coming directly from contaminated ports are allowed to land their passengers and cargo. It is thus evident that, at least as far as concerns pest, the sanitary regulations at present applied are of no value. International sanitary prophylaxis against pest must henceforth be based almost entirely on the adoption of defense against the importation of exotic rats and on the methodical destruction of indigenous rats, because no serious epidemic focus can be created if the disease is not disseminated by these animals. It will always be easy, in fact, by means of isolation and disinfection, to hinder the direct contamination of man by man. The preventive effect of the antipest serum is sufficiently sure to protect against infection those persons brought in contact with the sick.

* * * * *

Doctor Calmette recommended that existing quarantine measures be modified as follows:

1. The suppression of detention in lazarettoes and its replacement by simple sanitary surveillance of five days for such passengers as submit to a preventive inoculation of antipest serum, even when such passengers come from vessels having had cases of pest aboard during the passage.
2. Authorization for passengers of a suspected vessel who refuse to submit to inoculation to debark without hindrance at the port of arrival on condition that they will reside there for ten days and present themselves daily during that period for observation by the sanitary authorities.
3. Limitation of detention for vessels and cargo to the period strictly necessary for the destruction of rats and insects and the complete disinfection of all parts of the vessel and cargo.
4. Organization in all ports open to international commerce, of methodic destruction of rats, on shore and on board, the disinfection service to be strictly and scientifically controlled in such a manner that the efficacy of measures taken to destroy rats, insects, and the pest bacilli can be officially guaranteed.
5. The obligation for all vessels putting in at Mediterranean ports of the Levant or in those of the Red Sea, of the Persian Gulf, of India, of Indo-China, or other suspected or contaminated countries to be provided with a sufficient quantity of antipest serum to vaccinate all the passengers and crew if a case of pest should appear during the passage.

DOCTOR RINGELING'S REMARKS.

Doctor Ringeling, physician in chief of the hygienic service of the city of Amsterdam, submitted the following conclusions:

1. A revision of the general sanitary regulations to prevent the invasion and propagation of pest, adopted by the convention of Venice, March 19, 1897, is urgent.

2. This revision should have for its results:

(a) The determination in general of the rules according to which the sanitary service of the different countries should be organized to combat pest and epidemic maladies. The contracting governments should engage to organize the sanitary service in accordance with regulations to be prescribed.

(b) The establishment of regulations to be followed in the preventive treatment of persons having had or likely to have contact with pest patients or with their possessions. The contracting governments should engage to act accordingly.

(c) The establishment of measures to be taken for the destruction of rats and other vermin in docks, storehouses, on board vessels, etc., at the port of departure, during the voyage and at the port of arrival. The contracting governments should engage to follow the prescribed measures.

(d) To enact by law that the discharge of cargo from vessels shall be under the assiduous observation of the sanitary service, and that the employees of the service shall apply the prescribed measures with the least practicable delay in event of pest being found aboard among men or animals.

(e) To enact by law that the disinfection of merchandise shall not be done, except when, according to the rules prescribed by the convention, it is judged necessary.

3. The revision of the general sanitary regulations can be made in accordance with Article V of the convention through diplomatic channels. It concerns the Eleventh International Congress of Hygiene and Demography to call the attention of the different governments to the changes and deficiencies in the general sanitary regulations and to request that the desired changes be made through diplomatic channels.

4. That in order to formulate and translate the new articles to be submitted to the different countries, the executive committee of the congress should be assisted by a council of experts, members of the congress, the council to be composed, by preference, of delegates of the different countries adherent to the convention of Venice.

DOCTOR NOCHT'S REMARKS.

Doctor Nocht, physician to the port of Hamburg, director of the Institute of Tropical Diseases and of the Seamen's Hospital, Hamburg, said that he did not think it admissible to allow passengers from an infected vessel to go about town after having been inoculated. As for sulphurous gas, experience has shown that it does not kill everything. For example, it does not kill pest bacilli in excrement and in the cadavers of rats. Besides, the gas spoils flour, tobacco, and tea, and as a consequence there are numbers of claims for damage when the gas is used. Disinfection by oxide of carbon is preferable after discharging the vessel of its personnel. As for the visit, it should be made by special physicians. Vessels should have microscopic apparatus, in order that malaria may be distinguished from pest aboard ship.

DOCTOR FRANCK'S REMARKS.

Dr. Edm. Franck, royal inspector of sanitary services to the minister of the interior, Budapest, said that if vessels were examined and

disinfected properly prior to sailing diseases could not develop so easily aboard; but maritime sanitary measures are deplorable. The inspection is made hastily, nothing is done for the hygiene of the passengers, and the state as regards cleanliness leaves much to be desired. The disinfection is hardly better. Even trunks are not opened. Yet one is surprised to see pest break out periodically. The conference of Venice extolled above all the application of quarantine, but the duration of observation is not always rationally fixed. It is said that in Greece and Austria quarantines hardly give efficacious results. The visit and observation of passengers do not constitute a sufficient guaranty. As concerns cargo, the measures taken are also illusory because they are based on certain data regarding the nature of the malady—data that are often difficult to establish. In Hungary the port physician and the sanitary authorities share the responsibility for measures adopted. The speaker, referring to contamination by rats, said that they are always foci of pest in the extreme Orient, and that a control is indispensable, notably in the Suez Canal. It is essential that rules of hygiene be strictly observed on vessels and that rat hunting be energetically pursued. In this respect the education of responsible physicians should be attended to and their authority increased.

DOCTOR FREYBERG'S REMARKS.

Dr. N. Freyberg, chief of section of the medical department, St. Petersburg, said that the detention of persons presenting neither the symptoms of pest, nor suspected symptoms of the disease is a measure that can be dispensed with even for infected vessels, and replaced by sanitary observation and antipest inoculations. The destruction of rats should be practiced on all vessels from foreign ports and should form one of the functions of quarantine establishments. This obligation should be established by a sanitary conference held with that view. It is desirable that a special international and official journal be created, in which should be recorded all information bearing on the march of epidemics of pest and cholera and the measures taken in the different countries. Governments should assume the obligation of furnishing officially the necessary data for publication in such a journal. Title III, Chapter II, line 2, of the rules annexed to the convention of Venice should be altered to read: "But this restriction, limited to the contaminated area, should only be accepted on the formal condition that the government of the contaminated country take the necessary measures to prevent the exportation of susceptible materials coming from the contaminated area, as well as the isolation of the sick and other prophylactic measures."

M. Wilde, of Argentina, spoke of the large sums expended by his Republic for sanitary improvement of ports, and said that a system should be adopted whereby, through a small tax on the ships, these expenses could be made to fall on navigation.

M. Manolescoo, Roumania, said that it would be better for the congress to enunciate a project of maritime regulations rather than to leave the work to committees where the diplomatic element, generally incompetent, dominates. Very often the captains of vessels fail to declare infection except in extremis. This is a great danger. It is important that this declaration be imposed under forfeit of damages in case of nondeclaration, the damages payable to the country infected.

Most vessels have no ship's surgeon, and when there is one he is generally not up to his task. Sanitation in the oriental countries should be insisted upon. In the Orient the regulations are often a dead letter.

Doctor Brouardel said that it was pleasant to see that ideas favorable to quarantine had lost ground. More scientific ideas were gaining hold. Commissions should be formed in different ports in order to reenforce the authority of sanitary directors.

M. Ruysch thought it was not sufficient to have a ship's doctor. They are generally incompetent persons. If any confidence is to be placed in the physician on board, the medical officer must be an officer of the State.

SUMMARY.

The following desiderata were formulated in concluding the question of pest:

In consideration of the fact that recent data incontestably prove the rôle of rats as agents in the propagation of pest aboard ship, even when there is no case of human pest aboard, and when the ship does not come direct from infected ports; and also in consideration of the security procured by preventive inoculations of antipest serum to crews and passengers brought in contact with the sick: *Resolved*, That the congress express the opinion that quarantine measures now applied be modified as follows:

1. The limitation, in the largest sense of liberalism, of isolation in lazarettoes and replacement, whenever the sanitary authorities judge it possible, by a simple observation of ten days at the port of arrival, this observation being reduced to five days for passengers who consent to submit to a preventive inoculation of antipest serum, even when these passengers come from a ship having cases aboard during the passage.

2. Limitation for vessels and cargo of the duration of quarantine to the time strictly necessary for the destruction of rats and insects and the complete disinfection of all parts of the vessels and cargo.

3. Organization in all ports, open to international commerce, of a methodic destruction of rats, as well ashore as aboard, and of disinfection, strictly and scientifically controlled, in such a manner that the efficiency of measures taken to destroy rats, insects, and pest bacilli can be officially guaranteed.

4. Obligation for all vessels that put into Mediterranean ports of the Levant or in those of the Red Sea, of the Persian Gulf, of India, of Indo-China, or of other suspected or contaminated countries, to be provided with a sufficient quantity of antipest serum to vaccinate the passengers and all the crew if a case of pest should appear during the voyage.

5. To invite the attention of interested governments to the necessity of appointing sanitary physicians specially instructed with a view to the mission they are to fulfill, commissioned by the controlling power and independent of companies of navigation.

The congress passed a resolution that the International Sanitary Conference that is to meet at Paris, October, 1903, be asked to deliberate on the foregoing desiderata with a view to elaborating a set of regulations for the defense against pest more in conformity with modern science, and with the needs of international commerce.

* * * * *

Household insects and plague.

The following, taken from American Medicine, October 24, 1903, shows the danger of contracting plague from the bites of insects:

It is stated that the annual appearance of plague at Hongkong each spring has led Sir Henry Black to make an investigation. A block of native houses containing several thousand inhabitants, which was certified as being free of the plague, was selected for examination of vermin as the first step. Fleas, cockroaches, and spiders were found to be unmistakably infected with the germs of the plague. The bite of these insects is sufficient to introduce the germ. A further test revealed a more disturbing source of infection in samples of blood taken from many healthy inhabitants, which were forwarded to the bacteriologic department. Plague germs were discovered in at least 5 per cent of these samples. Thus, in the hot season, each of these was a probable center of danger, although there was no apparent contact with the disease. The only cure seems to be the destruction of the native town and the erection of a new and clean one which can be kept under sanitary control.

Hydrocyanic-acid gas against household insects.

[By L. O. Howard, Entomologist, Department of Agriculture, and Consulting Entomologist, Public Health and Marine-Hospital Service.]

The use of hydrocyanic-acid gas for nursery stock affected by insects is described in Circular No. 42 (second series), of this Office. Its use on trees in orchards is described in the Yearbook of the United States Department of Agriculture for 1900 (pp. 257-260).

Recently it has been fully demonstrated that this gas is an excellent remedy for household insects. Probably its first use for this purpose was in June of 1898 by Mr. Marlatt, of this Office, against Psocids in the residence of Mr. G. K. Holmes, of the Division of Statistics of the Department of Agriculture, using the cyanide first at the ordinary strength employed on fruit trees, then double, and finally quadruple this strength. The Psocids came from recently introduced leather-covered furniture, the covering of which was so tightly fastened as to be almost, if not quite, impervious to the gas, and the treatment was only partially successful. Another early use of this gas for household insects was in 1899, in San Francisco, by Mr. Alexander Craw, chief quarantine officer of the Board of Horticulture. In this case it was used against bedbugs, and in very small proportions. Two and one-half fluid ounces of commercial sulphuric acid and $2\frac{1}{2}$ ounces 98 per cent cyanide of potassium were used in a house of several rooms, each containing about 2,250 cubic feet of space; the rooms were closed for two hours, then entirely aired. The operation was apparently successful.

To determine its availability against the insect enemies of stored products or in granaries, some experiments were made during 1898 and the spring of 1899 by Messrs. Marlatt and Chittenden, of this Office,

in the presence of D. G. Fairchild and others, against certain grain weevils and the Angoumois grain moth, but with imperfect success, although the proportions used were much greater than in Mr. Craw's experiment. In his recent book on fumigation methods Prof. W. G. Johnson states that he used the hydrocyanic-acid gas in a granary and storehouse in June, 1899, using it at the rate of 0.1 gram of cyanide per cubic foot of space. The granary was affected by weevils, and, from the report of the owner, it appears that most of them were destroyed, though many escaped. During the same month in an Ohio mill another experiment of this kind was carried on under Professor Johnson's instructions. The owner considered the experiment to be a most grand success. The Mediterranean flour moth and certain granary beetles were destroyed.

Perfectly successful experiments were made, however, during the summer of 1901 by Mr. W. R. Beattie, of the Department of Agriculture, and by Mr. A. H. Kirkland, of Boston, Mass., formerly secretary of the Association of Economic Entomologists. Mr. Beattie's experiments were against cockroaches, and Mr. Kirkland's in one case against fleas and in the other against clothes moths.

Entomologists have long noticed that insects vary greatly in their susceptibility to cyanide fumes. The ordinary killing bottle used in making collections contains cyanide of potassium covered with plaster of Paris, which the fumes of the cyanide penetrate. Certain weevils, and especially such weevils as *Lixus* and *Sphenophorus* and other hard-bodied forms, will frequently be left overnight in a cyanide bottle and recover after being removed. It has been noticed, also, that in greenhouses certain insects recover. The experience gained, however, indicates that the use of hydrocyanic-acid gas in houses is successful against cockroaches, bedbugs, clothes moths, ants, white ants, house flies, and other soft-bodied insects; and as these constitute the majority of the household pests, the use of the gas must now be considered a standard remedy. Moreover, rats and mice are also killed by its use.

Some entomologists recommend as a substitute for hydrocyanic-acid gas a substance which has been more or less effectively used, viz, carbon bisulphide. The great danger in the use of this latter substance, however, from its extreme inflammability and explosiveness of its vapor when confined, renders it, perhaps, less available, and more than counteracts the danger to human beings from the use of the hydrocyanic-acid gas.

Recent experience indicates that in order to destroy the household insects mentioned, one fluid ounce of commercial sulphuric acid, diluted with two fluid ounces of water, to increase the bulk of the liquid and insure complete chemical action, and one ounce of high-grade (98 per cent) cyanide of potassium must be used for every 100 cubic feet of space.

Before performing the operation the house must be vacated, and it is well to do this just before nightfall. It is not necessary to remove any of the furniture or household belongings unless of polished nickel or brass, which may tarnish a little. Liquid or moist foods, as milk or other larder supplies that are not dry and might absorb the gas, should be removed from the house. All fires should be put out, for while the gas will not burn under ordinary conditions, it is as well to take no risks.

On the floor of each room should be placed a large porcelain wash basin, and into each wash basin should be poured the proportionate amount of water and sulphuric acid. It may be well to place under each wash basin a thick layer of newspapers, in order to avoid damage to carpet or rugs by the possible spattering of the acid acting upon the cyanide. All windows must be closed, and if they are not tight they should be calked with thin paper or cotton batting. Then the operator, beginning at the top of the house, drops the proportionate amount of cyanide of potassium, previously weighed out into thin paper sacks, into each washbowl, running rapidly from room to room and instantly closing the door behind him, descending ultimately to the ground floor or even to the cellar, running finally into the open air through the open door, which is instantly closed.

Hydrocyanic-acid gas is lighter than air and consequently rises. Therefore, the operation must be begun at the top of the house. The next morning the operator returns to the house, opens the last door, allows a certain amount of airing; then enters hurriedly and opens the windows of the first room or floor; then, after the thorough airing of this one, another in turn, thus gradually airing the whole house. The fumes quickly overcome and are fatal to human beings; hence the necessity for the utmost care and greatest speed in the initial operation and in the subsequent airing, and the undesirability of performing the experiment alone. The house should not be re-inhabited until all trace of the odor of the gas has disappeared. This odor resembles that of peach kernels.

The experience of Mr. Marlatt and Mr. Kirkland indicates that the operation can be safely performed in the manner indicated, but there is another way which was originally invented in greenhouse work. An ingenious person, by means of strings and improvised pulleys, can arrange it so that standing outside and loosening the string the cyanide suspended over the receptacles may be dropped simultaneously into the sulphuric acid. It will be, perhaps, not necessary to go into details, since any ingenious person can devise such an arrangement. It is, however, not so certain as dropping the cyanide by hand, since a caught string here or there might lessen the completeness of the fumigation.

While the writer must again emphasize the dangerous and even fatal qualities of this gas when breathed by human beings, it is

worthy of remark that in the thousands of operations which have been carried on with this gas in specially constructed houses for the fumigation of nursery stock in different parts of the country, no cases of fatal accident to a human being have ever been recorded. In one instance mentioned by Prof. W. G. Johnson, a careless negro was overcome by the gas and was removed from the inclosure (dragged out by the feet) before serious results followed.

It follows, from what we have just said, that there may be danger from fumigating one house in a row of houses separated only by party walls, the other houses being inhabited. Unnoticed cracks in a wall would admit the poisonous gas to the neighboring houses. In such a case a householder must consult his neighbors. In isolated houses, however, with the precautions indicated, the operation will be a safe one. The fact that Mr. Kirkland observed that English sparrows resting on the ridge of one of his houses were killed by the ascending fumes indicates, also, that where the house to be operated upon immediately adjoins a higher structure to which the gas may possibly gain entrance, there may be some danger to the occupants of the higher structure.

A PRACTICAL ILLUSTRATION.

Subsequent to the preparation of the foregoing portion of this circular a large dwelling house in Washington, D. C., was fumigated under the direction of Mr. Marlatt, and the following notes, based on this experience, are appended to more fully illustrate the fumigation process. The house was a fairly good-sized one, and all five floors, counting the garret and the basement, were treated, the space representing nearly 40,000 cubic feet, and requiring the use of some 25 pounds of cyanide and a corresponding quantity of acid.

The cubic contents of each room on each floor were carefully computed, and a tabular statement, given below, was prepared designating for each floor and the different rooms the capacity and the amount of water, acid, and cyanide needed.

Table designating rooms, capacity, and amounts of chemicals.

Floor.	Room.	Cubic feet.	Water.	Acid.	Cyanide.
			<i>Fl. oz.</i>	<i>Fl. oz.</i>	<i>Ard. oz.</i>
Fourth	Garret	^a 7,000	140	70	70
Third	Front	2,800	56	28	28
	Middle	1,400	28	14	14
	Back	2,200	44	22	22
Second	Front	^a 5,500	110	55	52
	Middle	2,200	44	22	25
	Back	2,000	40	20	20
First	Parlor	^a 4,400	88	44	44
	Middle	2,400	48	24	24
	Dining	2,900	58	29	29
Basement	Servant's	1,200	24	12	12
	Hall	2,000	40	20	20
	Kitchen	1,800	36	18	18
Total		39,800	756	378	378

^a The charges for these rooms were halved and set off in two vessels.

The rooms were prepared for treatment by seeing that all windows were closed and that the doors and windows of the ground floor were left unlocked or unfastened, so that they could be opened from without. The fireplaces in the different rooms were stuffed with paper and the registers were all closed. The carpets and rugs, where possible, were cleared away from the floor to prevent their being burned should the acid spatter out or boil over, and a large porcelain wash basin or a porcelain waste jar was put in each room, two such vessels being placed in the larger rooms. Under each a carpeting of old newspapers was placed. A number of vessels had to be discarded because of cracks, which would be dangerous in view of the heat generated by the process.

The house having been put in a state of readiness for the experiment, and the vessels for the charges having all been placed in their proper locations, the requisite amount of water indicated by the table already prepared (twice the amount of the acid) was poured into each of the different vessels. Following this, the proportionate amount of acid for the different rooms was added to the water in the vessels, the addition of the acid developing a high temperature. The cyanide having been previously weighed out in half-pound lots and put in small, thin paper bags, was distributed through all the different rooms in the proper amounts. The division of the bags for the fractional weights was made at the time the bags of cyanide for each charge were placed by the side of the vessels to receive them. The house was now in readiness to be fumigated. Coats and hats and everything needed outside were removed, and two persons went to the garret of the house and quickly placed the bags of cyanide in the already combined water and acid, passing rapidly down to the next floor and repeating the operation, and so on until the basement was finished, and the escape was made from the basement door to the street.

The preparation of the different rooms, getting their cubic contents, fixing the vessels, and preparing the charges consumed in a house of this size nearly three hours. The gas was left to do its work for three hours longer. The house was then opened cautiously, the doors and the windows of the lower floor first, then proceeding by easy stages through the different floors to the garret. The gas coming out of the house when the first doors and windows were opened was in enormous volume, showing that the house had retained it very effectually; and escaping from the house it was distinctly recognizable by its odor at a distance of over half a block. The windows of the adjoining houses were kept closed during the process of airing out. One of the assistants who attended to the aerating of the house was rather too precipitate in going to the upper rooms, and breathed more or less of the gas, but suffered no worse results than a rather severe headache, which lasted for several hours.

The results of the fumigation were eminently satisfactory; no

living insects could be found in the house. The roaches, by thousands, had come out from their hiding places in a vain effort to escape, and had rushed to the cracks under doors and windows, and had there perished. Sometimes they had the appearance of being alive and about to run, and a touch was necessary to demonstrate that they were dead, having been arrested instantly while in motion, their limbs extended in the normal position for running. Flies, roaches, and bedbugs, and without doubt all the other household pests, were killed. The bedbugs, against which the fumigation was especially directed, were found dead in numbers under trunks and about the beds.

The ingredients used were the 98 per cent cyanide of potassium, costing about 40 cents a pound. The sulphuric acid was the thick, almost sirupy commercial brand, costing about 4 cents a pound, the total cost of the materials used being, approximately, \$12.

In handling the acid great care should be used in pouring it from the bottle and in putting it into the vessels to avoid spattering on the hands or face, since it will burn rapidly through the skin, and should it spatter into the eyes would cause serious inflammation, or if on the clothing it would burn a hole in the garment. Should a drop fly to the hands or face, bathe the part promptly and freely in water, and the same also for garments or the carpet. It is further desirable to have at hand a bottle of ammonia water to neutralize the acid should it spatter on clothing. The cyanide should be broken up into lumps not exceeding twice the size of a walnut, the powdered and smaller fragments serving equally well. The bags should be of very thin paper. If they are of thick, heavy paper the action of the acid is delayed, and sometimes prevented completely. If there is any danger of this make two or three slits in the bottom of the bags to facilitate the entrance of the acid. Deep vessels are more satisfactory for the experiment than the wash basins chiefly used, but the latter were available and required no additional expense and served the purpose. Deeper vessels would give greater depth to the water and acid and accelerate the chemical action. Whenever the room is of such size that more than 2 pounds of cyanide must be employed for it, it is perhaps better to make two charges of half size for such a room. It would have been better, perhaps, in this instance, if the fumigation could have gone on over night, but the owners of the premises were very desirous of occupying it, and the house was aerated between 4 and 5 o'clock in the afternoon. Three persons, contrary to orders, slept in the rooms during the night, and reported no ill effects, although slight traces of the odor were noticeable in the early part of the night.

NOTE.—In a paper read before the American Public Health Association October 29 last, Dr. Fernando Lopez, of Mexico City, described the method practiced by his assistants of disinfecting houses for insects with hydrocyanic acid gas, stating that the practice had been carried on, under proper precautions, without accident.—Ed.

[Reports to the Surgeon-General, Public Health and Marine-Hospital Service.]

Summary of work in Chinatown for the week ended November 7.

SAN FRANCISCO, CAL., November 9, 1903.

WYMAN, Washington:

Following is record of work in Chinatown for week ended November 7:

Buildings reinspected.....	228
Rooms	1,715
Persons inspected	1,816
Sick	41
Sick prescribed for at Oriental Dispensary.....	13
Dead examined	10
Necropsies	4
Provisional diagnosis of plague	3
Rats examined bacteriologically	34
Number showing pest infection.....	2
Places limed and disinfected	570
Times streets swept.....	3
Sewers flushed	17
Notices to abate plumbing nuisances	25
Plumbing nuisances abated	9
Undergoing abatement.....	18
Total number plumbing inspections.....	146

BLUE.

Plague deaths at San Francisco bacteriologically confirmed.

SAN FRANCISCO, CAL., November 5, 1903.

WYMAN, Washington:

Diagnosis bacteriologically confirmed in case 107, died October 29, 1903.

BLUE.

SAN FRANCISCO, CAL., November 6, 1903.

WYMAN, Washington:

Diagnosis bacteriologically confirmed in case 106, died October 23, 1903.

BLUE.

SAN FRANCISCO, CAL., November 9, 1903.

WYMAN, Washington:

Diagnosis bacteriologically confirmed in case 105, died October 23, 1903.

BLUE.

SAN FRANCISCO, CAL., November 11, 1903.

WYMAN, Washington:

Diagnosis bacteriologically confirmed in case 104, died October 20, 1903.

BLUE.

Transactions on account of yellow fever at Laredo and San Antonio.

EL PASO.

EL PASO, TEX., November 5, 1903.

WYMAN, *Washington*:

About fifty people, mostly railroad employees, arrived here to-day from San Antonio; supposed intention to remain here for completion incubation period, so they can go to other parts of State upon completion six days from San Antonio. Representative State board here gives passenger certificate. Service work here going as usual.

LUMSDEN.

HOUSTON.

HOUSTON, TEX., November 10, 1903.

WYMAN, *Washington*:

Detention camp near Houston with guard still in operation. Local conditions appear satisfactory. Letter follows.

EBERSOLE.

LAREDO.

LAREDO, TEX., November 4, 1903.

WYMAN, *Washington*:

New cases, 7; old cases, 7; total reported, 14; deaths, 3; 45 houses disinfected, with 174 rooms; 431 containers and 7 excavations oiled, 275 premises inspected, 93 sprinkled, 45 faucets put in water barrels, 33 barrels crude oil sprinkled on streets and vacant lots, covering 69 city blocks. Maximum temperature, 97°; minimum, 56°; weather very unfavorable. No cases reported in New Laredo, Minera, or Cannel.

GUITERAS.

LAREDO, TEX., November 5, 1903.

WYMAN, *Washington*:

New cases 8, old cases 4, total reported to-day, 12; no deaths. Seventy-two houses disinfected, with 167 rooms; 747 containers, 44 excavations, and 4 tanks oiled; 355 premises inspected, 115 premises sprinkled, 36 faucets put in water barrels, 34 barrels crude oil sprinkled on streets and vacant lots, covering 85 city blocks. Maximum temperature 88°, minimum 57°. One new case reported at Cannel. Nothing new from New Laredo. No report from Minera.

GUITERAS.

LAREDO, TEX., November 6, 1903.

WYMAN, *Washington*:

Please add to last night's report as follows: Systematic disinfection of the entire city commenced October 30. Up to November 5 35 city blocks have been disinfected. This is being done without interfering with the disinfection of infected premises as soon as cases are reported.

GUITERAS.

LAREDO, TEX., *November 6, 1903.*WYMAN, *Washington:*

New cases 9, old cases 9, total reported to-day 18; deaths, 4; 82 houses disinfected, with 241 rooms; 638 containers, 5 tanks, and 111 excavations oiled; 330 premises inspected and 123 sprinkled, covering 52 city blocks; 46 faucets put in water barrels. Oilers of water containers have covered the city for the second time and are now on third round. Maximum temperature, 86°; minimum, 47°. Cannel reports 1 new case, making a total of 5 to date. Minera reports 3 new cases, all from the same source of infection as the first case after general disinfection. No report from New Laredo. Necessary to have medical inspectors to inspect disinfected districts to report all cases of illness, to prevent spread of new foci that may arise. Have nominated to-day McGregor for this purpose. Will require additional inspectors later on.

GUITERAS.

LAREDO, TEX., *November 7, 1903.*WYMAN, *Washington:*

A visit for two days at Monterey convinces me that yellow fever has existed there since August 1 and had original different dates. Over one-half the minimum population of 60,000 has suffered with a disease, and the deaths exceed many times the reported number. Over 500 persons down with this disease at this moment. All the stations from Saltillo to Laredo have borne the stigma of deaths and the distresses of sickness. In fact, about every ranch has suffered. The number of cases and deaths will never be known, but there has been only a moderate amount of dread, fear, and disorder of business. There are no quarantines south of Monterey worthy of the name, and that on the Mexican National has become useless on account of the immunizing of residents and crews. Commercial interests in Mexico begin to dread the effect of next year's embargoes and seem willing to have more explicit statements from the infected region, rather than suffer in future more than will be fair to the people and their interests. I found no hint of infection at Saltillo, although many cases have been treated there and several deaths occurred. There seems to be no stegomyia at that point.

MURRAY.

WASHINGTON, *November 7, 1903.*GUITERAS, *Laredo, Tex.:*

Wire on what grounds detention camp for Laredo was closed. If for pecuniary reasons, why not confer with Tabor with regard to opening it by Bureau? Wire number of people who were passed through it.

WYMAN.

LAREDO, TEX., *November 7, 1903.*WYMAN, *Washington:*

Detention camp for Laredo was closed for following reasons: Pecuniary, and because certificates issued were not honored by various points in Texas. State Quarantine Officer McKnight informs me that Tabor does not now object to the Service opening camp. I received

no information of the closing of the detention camp until two days prior to closing, and then not officially. I hesitate to recommend reopening under Service auspices, fearing certificates might not be honored. Will obtain information relative to this point. About 70 persons passed through camp from October 1 to November 2.

GUITERAS.

LAREDO, TEX., *November 7, 1903.*

WYMAN, *Washington:*

New cases 15, old cases 5, total reported to-day 20; deaths 2; 81 houses, with 202 rooms, disinfected; this includes 3 churches, 715 containers, 16 excavations, 6 tanks, and 12,000 feet standing water oiled; 392 premises inspected and 109 sprinkled, covering 66 city blocks; 70 faucets put into barrels. Maximum temperature 83°, minimum 52°. No new cases at Cannel, Minera, or New Laredo. The weather continues unfavorable, and hundreds of laborers from the cotton fields of northern Texas are returning daily. This, and the impossibility of having all cases reported promptly, accounts for the increase in the number of cases. The city ordinance referred to in my telegram of October 31 goes into effect the 10th instant; at the same time a volunteer force of inspectors, composed of prominent citizens, will patrol the town to report all cases of illness.

GUITERAS.

LAREDO, TEX., *November 8, 1903.*

WYMAN, *Washington:*

New cases 8, old cases 4; total reported to-day 12; 45 houses disinfected, with 190 rooms; 586 containers, 32 excavations, 5 tanks, and 61 premises oiled; 303 premises inspected, covering 42 city blocks. Maximum temperature 82°, minimum 59°. No cases at Nuevo Laredo. No report from Cannel or Minera. Murray goes to Monterey.

GUITERAS.

LAREDO, TEX., *November 9, 1903.*

WYMAN, *Washington:*

New cases, 13; old cases, 12; total reported to-day, 25; deaths, 4, all discovered dead; 59 houses disinfected, with 257 rooms—this includes post-office and custom-house; 550 containers, 19 excavations, 3 tanks, and 88 premises oiled; 366 premises inspected, 55 faucets put in barrels, 31 barrels of crude oil sprinkled on streets and vacant lots, covering 52 city blocks. Maximum temperature, 86°; minimum, 54°. Two new cases reported at Cannel. No report from Minera or New Laredo. From the fact that 12 old cases and 4 dead were discovered to-day, you may judge of the difficulties we have to contend with in controlling the disease. The protracted warm spell, the hundreds of laborers returning to town from the cotton fields, and the hidden cases have given new impulse to the epidemic and upset all my calculations. Am now putting on my own inspectors to report cases of sickness in those quarters of the town that have been disinfected. For this purpose am using acting assistant surgeons heretofore in charge of disinfection crews, and appointed a few new ones as inspectors. The

disinfecting crews will be directed by the foremen. Tabor wires that detention camp will be at once resumed by State if considered necessary.

GUITERAS.

WASHINGTON, *November 10, 1903.*

GUITERAS, *Laredo, Tex.:*

Recent rains, warm weather, and return of laborers evidently complicate your work, but it should be prosecuted vigorously upon same lines as not only beneficial at present time but also for next year. If reopening detention camp by State is desirable, suggest matter to Tabor.

WYMAN.

LAREDO, TEX., *November 10, 1903.*

WYMAN, *Washington:*

New cases, 5; old cases, 14; total reported to-day, 19; deaths, 5; 75 houses disinfected, with 292 rooms; 421 houses inspected; 651 containers, 12 tanks, 82 excavations, and 120 premises oiled; 360 premises inspected, 26 faucets put in barrels, 35 barrels of crude oil sprinkled on streets and vacant lots, covering 72 city blocks. Maximum temperature, 84°; minimum, 62°. No cases or deaths at New Laredo. Cannel reports 3 new cases, making a total of 11 to date. Minera reports 7 new cases. The mass meeting yesterday did not accomplish as much as was expected; only about 27 citizens have volunteered for inspection work, and it is doubtful if this number will report for work to-morrow. Tabor will be here to-morrow morning.

GUITERAS.

SAN ANTONIO.

SAN ANTONIO, TEX., *November 4, 1903.*

WYMAN, *Washington:*

No cases or deaths reported to-day. Temperatures last twenty-four hours, 52° and 78°. House to house inspection by city authorities completed to-day. Tabor reports another case in DeWitt County.

RICHARDSON.

SAN ANTONIO, TEX., *November 5, 1903.*

WYMAN, *Washington:*

No case; one death to-day. Temperatures last twenty-four hours 54° and 80°.

RICHARDSON.

SAN ANTONIO, TEX., *November 6, 1903.*

WYMAN, *Washington:*

Two cases, no deaths reported to-day. Temperatures last twenty-four hours 46° and 74°.

RICHARDSON.

SAN ANTONIO, TEX., *November 7, 1903.*

WYMAN, *Washington:*

No case or death reported to-day. Temperatures last twenty-four hours 46° and 74°.

RICHARDSON.

SAN ANTONIO, TEX., *November 8, 1903.*

WYMAN, *Washington:*

No case, no death, to-day. Rumors fever at Sutherland Springs, Wilson County. Will investigate and report soon as possible.

RICHARDSON.

SAN ANTONIO, TEX., *November 9, 1903.*

WYMAN, *Washington:*

No case or death to-day. Temperatures last twenty-four hours 50° and 78°. Visited Sutherland Springs to-day—town 30 miles east of here; population about 150. Dr. Weston, the only practitioner there, has treated since August about 100 cases of a fever which, from his description, I believe to have been yellow, with 4 deaths. Disease seems to have died out for want of material. Tabor has instructed county authorities to disinfect.

RICHARDSON.

SAN ANTONIO, TEX., *November 10, 1903.*

WYMAN, *Washington:*

One case; no deaths to-day. Temperature last twenty-four hours, 58° and 78°.

RICHARDSON.

SAN ANTONIO, TEX., *November 11, 1903.*

WYMAN, *Washington:*

No case; no death to-day. Temperatures last twenty-four hours, 60° and 80°.

RICHARDSON.

Statistical reports of States and cities of the United States—Yearly and monthly.

CONNECTICUT—*Stamford.*—Month of October, 1903. Estimated population, 22,000. Number of deaths not reported. No deaths from contagious diseases reported.

FLORIDA—*Tampa.*—Month of October, 1903. Estimated population, 20,000. Total number of deaths 28, including diphtheria 1, and 7 from tuberculosis.

GEORGIA—*Augusta.*—Month of October, 1903. Estimated population, 42,441. Total number of deaths 72—white 29, colored 43—including enteric fever 2, whooping cough 2, and 12 from tuberculosis.

COLUMBUS.—Month of October, 1903. Estimated population, 19,303. Total number of deaths 38, including enteric fever 1, and 3 from tuberculosis.

ILLINOIS—*Springfield.*—Month of October, 1903. Estimated population, 40,000. Total number of deaths, 42, including diphtheria 2, enteric fever 1, and 3 from tuberculosis.

IOWA—*Ottumwa.*—Month of October, 1903. Estimated population, 22,000. Total number of deaths 17, including diphtheria 1, enteric fever 1, and 1 from tuberculosis.

MARYLAND—*Cumberland*.—Month of October, 1903. Estimated population, 20,000. Total number of deaths 38, including enteric fever 4 and 4 from tuberculosis.

MASSACHUSETTS—*Newton*.—Month of October, 1903. Estimated population, 37,794. Total number of deaths 42, including diphtheria 1, and 2 from tuberculosis.

MICHIGAN.—Reports to the State board of health, Lansing, for the week ended October 31, 1903, from 70 observers, indicate that pleuritis, inflammation of bowels, pneumonia, whooping cough, measles, meningitis, and smallpox were more prevalent, and erysipelas and cholera infantum were less prevalent than in the preceding week. Meningitis was reported present at 4, measles at 9, whooping cough at 10, smallpox at 20, diphtheria at 54, scarlet fever at 71, enteric fever at 116, and phthisis pulmonalis at 195 places.

MINNESOTA—*Winona*.—Month of October, 1903. Estimated population, 23,000. Total number of deaths, 22, including 5 from tuberculosis.

MONTANA—*Helena*.—Month of October, 1903. Estimated population, 13,000. Number of deaths not reported. One death from enteric fever reported.

NEW HAMPSHIRE—*Concord*.—Month of October, 1903. Estimated population, 20,000. Total number of deaths, 31, including diphtheria 1, enteric fever 2, and 1 from tuberculosis.

Franklin.—Month of October, 1903. Estimated population, 6,000. Total number of deaths, 10, including 1 from scarlet fever.

OHIO—*Cincinnati*.—Month of September, 1903. Estimated population, 336,000. Total number of deaths, 395, including diphtheria 4, enteric fever 6, scarlet fever 6, whooping cough 2, and 63 from tuberculosis.

Toledo.—Month of September, 1903. Census population, 131,822. Total number of deaths, 157, including diphtheria 11, enteric fever 8, whooping cough 2, and 11 from tuberculosis.

PENNSYLVANIA—*Altoona*.—Month of October, 1903. Census population, 38,973. Total number of deaths, 58, including diphtheria 2, enteric fever 2, scarlet fever 2, smallpox 2, and 2 from tuberculosis.

Columbia.—Month of October, 1903. Estimated population, 13,500. Total number of deaths, 19, including enteric fever 1, and 1 from tuberculosis.

VIRGINIA—*Pocahontas*.—Month of October, 1903. Census population, 2,789. Number of deaths not reported. One death from tuberculosis reported.

WISCONSIN—*Milwaukee*.—Month of September, 1903. Estimated population, 315,000. Total number of deaths, 341, including diphtheria 7, enteric fever 6, whooping cough 2, and 28 from tuberculosis.

Report of immigration at Baltimore, Md.

OFFICE OF THE COMMISSIONER OF IMMIGRATION,
Baltimore, Md., October 31, 1903.

Number of alien immigrants who arrived at this port during the week ended October 31, 1903; also names of vessels and ports from which they came.

Date of arrival.	Vessel.	Where from.	Number of immigrants.
Oct. 31	Hannover.....	Bremen	1,367

BERTRAM N. STUMP,
Acting Commissioner.

OFFICE OF THE COMMISSIONER OF IMMIGRATION,
Baltimore, Md., November 7, 1903.

Number of alien immigrants who arrived at this port during the week ended November 7, 1903; also names of vessels and ports from which they came.

Date of arrival.	Vessel.	Where from.	Number of immigrants.
Nov. 1	Vedamore.....	Liverpool.....	2
1	Lord Downshire.....	Cardiff	4
4	Bodo	Port Antonio.....	1
5	Cassel	Bremen	1,394
	Total	1,401

LOUIS T. WEIS,
Commissioner.

Report of immigration at Boston.

OFFICE OF THE COMMISSIONER OF IMMIGRATION,
Boston, Mass., November 1, 1903.

Number of alien immigrants who arrived at this port during the week ended November 1, 1903; also names of vessels and ports from which they came.

Date of arrival.	Vessels.	Where from.	Number of immigrants.
Oct. 26	Devonian	Liverpool, England.....	16
26	Colorado	Hull, England.....	1
26	Admiral Farragut.....	Jamaica, West Indies.....	14
29	Preston	Port Limon, Costa Rica	1
29	Ivernia	Liverpool, England.....	1,042
30	Michigan.....	do	1
31	Cambroman	Italian ports.....	1,100
	Total	2,175

GEO. B. BILLINGS, Commissioner.

1991

November 13, 1903

*Report of immigration at Philadelphia.*OFFICE OF THE COMMISSIONER OF IMMIGRATION,
Philadelphia, Pa., November 7, 1903.*Number of alien immigrants who arrived at this port during the week ended November 7, 1903; also names of vessels and ports from which they came.*

Date of arrival.	Vessels.	Where from.	Number of immigrants.
Nov. 1 2	Friesland.....	Liverpool and Queenstown	209
	Carthaginian.....	Glasgow	11
	Total		220

JOHN J. S. RODGERS, *Commissioner.**Inspection of immigrants.*

MONTHLY.

Place.	Month.	Number of immigrants passed.	Number of immigrants rejected.
Astoria, Oreg.	October....	9	0
Baltimore, Md.	September.	4,939	57
Buffalo, N. Y.	October....	180	7
Galveston, Tex.	do	467	5
New Orleans, La.	do	2,209	17
Niagara Falls, N. Y.	do	119	13
Quebec, Canada	do	1,498	54
San Francisco, Cal.	do	1,329	48
Sault Ste. Marie, Mich.	do	100	33
Tacoma, Wash.	do	34	10

Reports from national quarantine

Number.	Name of station.	Week ended—	Name of vessel.	Date of arrival.	Port of departure.
	UNITED STATES:				
1	Alexandria, Va	Nov. 7
2	Beaufort, N. C	do
3	Biscayne Bay, Fla.....	Oct. 31
	Boca Grande, Fla.—				
4	Punta Gorda	do
5	Puntarasa	do
6	Brunswick, Ga	do
7	Cape Charles, Va	Nov. 7
8	Cape Fear, N. C	Oct. 31
9	Cedar Keys, Fla	Nov. 7
10	Columbia River, Oreg	Oct. 31
11	Cumberland Sound, Fla	Nov. 7
12	Delaware Breakwater, Lewes, Del.	Oct. 31	Br. ss. St. Hugo.....	Oct. 29	Tjilatjap
13	Dutch Harbor, Alaska	Sept. 12
14	Eastport, Me	Nov. 5
15	Eureka, Cal	Oct. 24
		Oct. 31
16	Grays Harbor, Wash	do
17	Gulf quarantine, Ship Island, Miss.	do ..	Nor. bk. Andrea.....	Oct. 27	East London
18	Key West, Fla	do
19	Los Angeles, Cal	do
20	Newbern, N. C	do
21	Nome, Alaska	Oct. 24
22	Pascagoula, Miss	Oct. 31
23	Port Angeles, Wash	Oct. 10
24	Portland, Me	Oct. 31
25	Port Townsend, Wash.....	do ..	Br. bk. Iverna ^a Br. sp. Aristomene	Oct. 13 Oct. 26	Shanghai..... Yokohama
26	Reedy Island, Del.....	do
	St. Georges Sound, Fla.:				
27	East Pass	do
28	West Pass	do
29	St. Johns River, Fla	do
30	San Diego, Cal	do
31	San Francisco, Cal.....	do ..	Am. sch. W. F. Jewett..... Ger. ss. Nicaria.....	Oct. 26 Oct. 28	Klaweck, Alaska .. Hamburg
32	San Pedro, Cal	do
33	Santa Barbara, Cal.....	do

^a Previously reported.

and inspection stations.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No transactions.....	
2				No report.....	
3				2 vessels spoken and passed.....	
4				No report.....	
5				do.....	
6					1
7					3
8					4
9				No report.....	
10					3
11				No report.....	
12	Orders.....	Held in quarantine.....	Oct. 30	Released without pratique. One case suspected plague removed at Suez and 3 at Algiers.	1
13				No report.....	
14					24
15				No transactions.....	
16					2
17	Ship Island.....	Disinfected to kill rats.....	Oct. 31	No transactions.....	
18				Released on Bureau authority.	8
19					7
20				No report.....	
21				No transactions.....	
22					2
23				No report.....	
24				do.....	
25	Port Blakeley Tacoma	Fumigated to kill rats..... Discharging ballast.....	Oct. 28 Oct. 26		1 11
26				Glandular examination of fore-castle crew of Br. bk. Forparshire and Nor. bk. Seigurd, from Honolulu; Am. sch. Commerce, from Hilo, and Br. sp. Aristomene, from Yokohama.	14
27				1 vessel boarded and passed.	
28				No report.....	
29				No transactions.....	
30				13 vessels spoken and passed. 5 steamships passed without inspection.	1
31	San Francisco	Fumigated.....	Oct. 27	1 vessel spoken and passed.	3
	do	do	Oct. 30	1 vessel boarded and passed. Temperatures taken of all on board Am. bkn. S. G. Wilder and Am. sch. W. H. Marston, from Honolulu; the Ger. ss. Ramses, from Hamburg, and the Am. ss. Peru, from Panama. Temperatures taken of passengers of Am. ss. Curaçao from Guaymas. Temperatures of officers taken and glandular regions of crew examined on Am. ss. Nebraskan, from Honolulu. Glandular regions of fore-castle crew and steerage passengers examined and temperatures of cabin passengers from Honolulu taken on Jap. ss. America Maru, from Hongkong.	32
32				No report.....	
33				do.....	

Reports from national quarantine

Number.	Name of station.	Week ended—	Name of vessel.	Date of arrival.	Port of departure.
UNITED STATES—Continued.					
34	Santa Rosa, Fla	Nov. 3	It. bk. Nostra Madre <i>a</i>	Oct. 20	Genoa
			Br. ss. August Belmont....	Oct. 28	Tampico
			It. bk. Mariedo...	Rio de Janeiro
			Am. ss. Pensacola	Oct. 30	Tampico.....
			Nor. bk. Sirango	Oct. 31	Nolloth.....
			Nor. bk. Kentigerndo...	Lourenço Marquez
35	Savannah, Ga	Oct. 31	Br. bk. Sidra <i>a</i>	Oct. 23	Perth Amboy.....
			Nor. bk. Jorgen Bank	Oct. 27	Port Natal.....
			Br. ss. Hughenden	Oct. 30	Pisagua
35	Sitka, Alaska.....	Oct. 17
36	South Atlantic quarantine, Blackbeard Island, Ga.	Oct. 31
37	South Bend, Washdo...
38	Tampa Bay, Flado...
39	Washington, N. Cdo...
HAWAII:					
41	Hilo	Oct. 10
		Oct. 17
42	Honolulu	Sept. 19	Am. sch. Defiance <i>a</i>	Sept. 10	Calla Buono
		Oct. 17
		Oct. 24
43	Kahului.....	Oct. 17
		Oct. 24
44	Kihei	Oct. 17
45	Koloado...
		Oct. 24
46	Lahaina	Oct. 17
		Oct. 24
PHILIPPINE ISLANDS:					
47	Cebu	Sept. 12
		Sept. 19
48	Iloilodo...
		Sept. 26
49	Jolo.....	Sept. 12
		Sept. 19
		Sept. 26
50	Manilado...	Am. dredge, No. 1.....	Sept. 20	Manila
			Am. ss. Union	Sept. 22	San Fernando.....
			Nor. ss. Halvard	Sept. 23	Chingkiang
			U. S. C. T. Ybadan	Sept. 26	Hongkong.....
PORTO RICO:					
51	Ponce	Oct. 24	Sp. ss. Monserrat.....	Oct. 21	Habana
52	San Juando...	Am. ss. Philadelphia.....do...	La Guayra
			Sp. ss. Monserrat.....	Oct. 22	Habana
Subports—					
53	Aguadilla.....do...
54	Arecibodo...
55	Arroyodo...
56	Fajardodo...
57	Humacaodo...
58	Mayaguezdo...

a Previously reported.

and inspection stations—Continued.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
34	Pensacola	Ballast discharged; hold cleaned.	Nov. 2	3
.....	do	Disinfected.	do
.....	do	Held for discharge of ballast and disinfection.
.....	do	Disinfected.
.....	do	Discharging ballast.
.....	do	Held to discharge ballast.
35	Savannah	Held to complete 5 days from disinfection.	Oct. 26	1 case malarial fever.	7
.....	do	Fumigated to kill rats.	Oct. 31
.....	do	Inspected and held.
35	3
36	No transactions.
37	do.
38	1
39	No transactions.
41	1
42	Honolulu	Held for disinfection.	Sept. 22	No transactions. Report received out of date.	9
.....	10
43	No transactions.	10
44	do.
45	No report.
46	No transactions.
46	do.	1
47	No transactions.
47	42 bancas inspected and passed.	26
48	48 bancas inspected and passed.	31
49	62
50	Manila	Disinfected and held.	Sept. 25	1 case cholera.	52
.....	do	do	Sept. 22	2 cases smallpox.	8
.....	do	Disinfected.	Sept. 24	6
.....	do	Disinfected and fumigated.	2
51	Genoa	Held.	Oct. 21	64
52	New York	do	do	1
.....	Barcelona	do	Oct. 22	4
53	1
54	No transactions.
55	do.
56	do.
57	do.
58	2

Reports from State and

Number.	Name of station.	Week ended—	Name of vessel.	Date of arrival.	Port of departure.
1	Baltimore, Md	Nov. 7
2	Bangor, Me	do
3	Boston, Mass	do
4	Charleston, S. C	Oct. 31
5	Elizabeth River, Va	Nov. 7
6	Galveston, Tex	Oct. 31	Br. ss. Corby	Oct. 22	Vera Cruz
			Br. ss. Norseman	Oct. 25	Liverpool
			Sp. ss. Riojano	Oct. 26	Cienfuegos
			Br. ss. Inchmaree	Oct. 27	Newcastle
			Br. ss. Bernard	do ..	Para
			Br. ss. Comedian	Oct. 28	Mussel Bay
			Nor. ss. Nord	Oct. 29	Habana
7	Gardiner, Oreg	do
8	Marcushook, Pa	Nov. 7
9	Mobile Bay, Ala	Oct. 31
10	New Bedford, Mass	Nov. 7
11	New Orleans, La	Oct. 24	Br. ss. Bellena ^a	Oct. 16	Brazilian ports
			Ger. ss. Parthia ^a	Oct. 17	Mexican ports
			Sp. ss. Puerto Rico	Oct. 19	Habana
			Br. ss. Louisianian	do ..	Liverpool via Co- lon.
			Nor. ss. Columbia	Oct. 21	Bocas del Toro ...
			Nor. ss. Beacon	do ..	Colon
			Am. ss. Louisiana	Oct. 22	Habana
			Sp. ss. Ontaneda	do ..	Vera Cruz
			Nor. ss. Taunton	Oct. 22	Port Limon
			Br. ss. Floridian	Oct. 24	Mexican ports
12	Newport News, Va	Nov. 7
13	Newport, R. I	do
14	New York, N. Y	do
15	Pass Cavallo, Tex	do
16	Port Royal, S. C	Oct. 31
17	Providence, R. I	Nov. 7
18	Quintana, Tex	do
19	Sabine Pass, Tex	do
20	St. Helena Entrance, S. C	Nov. 5

^a Previously reported.

municipal quarantine stations.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No report	
2				do.	
3				do.	
4					1
5				No report	
6	Galveston	Disinfected	Oct. 27		45
	do	do	Oct. 25		
	do	do	Oct. 26		
	do	do	Oct. 27		
	do	do	do		
	do	do	Oct. 28		
	do	do	Oct. 29		
7				No report	
8				do.	
9				do.	
10				do.	
11	New Orleans	Disinfected and held	Oct. 21		
	do	do	Oct. 22		
	do	Disinfected	Oct. 19		
	do	do	do		
	do	do	Oct. 21		
	do	do	do		
	do	do	Oct. 22		
	do	Disinfected and held			
	New Orleans	Disinfected	Oct. 22		
	do	Disinfected and held			
12				No report	
13				do.	
14				do.	
15				do.	
16				do.	
17				do.	
18				do.	
19				do.	
20					1

Smallpox in the United States as reported to the Surgeon-General, Public Health and Marine-Hospital Service, June 27, 1903, to November 13, 1903.

For reports received from December 27, 1902, to June 26, 1903, see PUBLIC HEALTH REPORTS for June 26, 1903.

Place.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Mobile	June 20-Nov. 7	40		
Total for State		40		
Total for State, same period, 1902.		1		
California:				
Fresno	June 1-June 30	7		
Los Angeles	July 12-Oct. 10	36		
Oakland	Aug. 1-Sept. 30	9		
Sacramento	Aug. 2-Aug. 23	3		
San Francisco	June 14-Oct. 25	28		
Total for State		83		
Total for State, same period, 1902.		146		
Colorado:				
Adams County	Apr. 1-May 31	14		
Archuleta County	do	1		
Boulder County	Apr. 1-Sept. 30	84		
Chaffee County	do	33		
Cheyenne County	June 1-June 30	3		
Clear Creek County	Apr. 1-June 30	12		
Delta County	June 1-July 31	2		
Denver County (Denver included)	Apr. 1-Oct. 17	266		
El Paso County	Apr. 1-Sept. 30	18		
Fremont County	do	41		
Garfield County	Apr. 1-July 31	2		
Gilpin County	do	15		
Jefferson County	Apr. 1-Sept. 30	57		
Kit Carson County	Apr. 1-May 31	6		
Lake County	June 1-Sept. 30	19		
Larimer County	Apr. 1-Aug. 31	35		
Las Animas County	Apr. 1-May 31	2		
Lincoln County	do	1		
Logan County	do	1		
Mesa County	July 1-Sept. 30	12		
Morgan County	Apr. 1-May 31	1		
Otero County	do	14		
Ouray County	July 1-July 31	2		
Park County	June 1-June 30	1		
Pueblo County	Apr. 1-July 31	10		
Routt County	Apr. 1-June 30	82		
San Miguel County	July 1-Aug. 31	18		
Summit County	Apr. 1-July 31	3		
Teller County	Apr. 1-Aug. 31	12		
Washington County	Apr. 1-July 31	20		
Weld County	Apr. 1-Sept. 30	113		
Yuma County	Apr. 1-July 31	25		
Total for State		925		
Total for State, same period, 1902.		153		
Florida:				
Alachua County, Gainesville ..	June 13-Oct. 31	1		
Baker County, Sanderson	do	2		
Duval County, Jacksonville	do	6		
Escambia County, Pensacola ..	do	15		
Holmes County, Ponce de Leon ..	do	12		
Leon County, Tallahassee and Crestview ..	do	19		
Levy County, Ottercreek	do	3		
Polk County, Kathleen	do	1		
De Soto County, Punta Gorda ..	do	3		
Total for State		62		
Total for State, same period, 1902.		25		
Georgia:				
Atlanta	June 25-July 8	3		
Total for State		3		
Total for State, same period, 1902.		1		

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Illinois:				
Belleville	June 13-Oct. 31	45	3	
Chicago	June 28-Nov. 7	89	5	
Danville	July 11-Oct. 17	6	
Total for State		140	8	
Total for State, same period, 1902.		137	2	
Indiana:				
Adams County	June 1-June 30	1	
Allen County	do	8	
Benton County	May 1-June 30	3	
Blackford County	June 1-June 30	1	
Boone County	May 1-June 30	6	1	
Brown County	do	18	
Carroll County	May 1-May 31	2	
Cass County	May 1-June 30	44	
Clark County	do	9	
Clay County	May 1-May 31	10	
Crawford County	May 1-June 30	9	1	
Daviess County	do	32	2	
Dearborn County	June 1-June 30	1	
Decatur County	May 1-June 30	21	
DeKalb County	May 1-May 31	3	
Delaware County	May 1-June 30	28	
Fayette County	June 1-June 30	2	
Floyd County	May 1-June 30	7	
Fountain County	May 1-May 31	17	
Fulton County	May 1-June 30	10	
Gibson County	do	10	
Grant County	do	35	
Greene County	May 1-May 31	7	1	
Harrison County	June 1-June 30	5	
Hendricks County	May 1-June 30	11	
Howard County (Kokomo in- cluded)	May 1-July 11	15	
Huntington County	May 1-May 31	1	
Jackson County	do	1	
Jasper County	do	30	1	
Jennings County	do	1	
Johnson County	do	5	
Knox County	May 1-June 30	13	
Lake County	June 1-June 30	10	
Laporte County	May 1-June 30	31	
Lawrence County	do	19	
Madison County (Elwood in- cluded)	May 1-July 5	47	
Marion County (Indianapolis included)	May 1-Oct. 31	33	4	
Martin County	May 1-May 31	20	
Miami County	May 1-June 30	14	
Monroe County	do	26	
Montgomery County	May 1-May 31	1	
Morgan County	May 1-June 30	2	
Newton County	May 1-May 31	3	
Noble County	May 1-June 30	2	
Orange County	do	6	
Owen County	May 1-May 31	4	
Parke County	May 1-June 30	13	
Perry County	May 1-May 31	2	
Posey County	do	1	
Pulaski County	May 1-June 30	5	
Ripley County	June 1-June 30	1	
St. Joseph County (South Bend included)	July 19-Sept. 12	3	
Scott County	May 1-June 30	5	
Spencer County	May 1-May 31	4	
Starke County	June 1-June 30	6	
Sullivan County	May 1-June 30	13	
Tippecanoe County	do	8	
Tipton County	June 1-June 30	6	
Vanderburg County	May 1-Oct. 24	9	
Vermillion County	May 1-June 30	47	One case from Pittsburg.
Vigo County	do	75	1	
Warren County	do	8	
Warrick County	May 1-May 31	34	
Wayne County	May 1-June 30	2	
Wells County	June 1-June 30	4	
White County	do	4	
Whitley County	May 1-June 30	8	
Places not mentioned	June 1-June 30	4	
Total for State		842	15	
Total for State same period, 1902.		338	20	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Iowa:				
Cedar County (Webster city) ..	Aug. 1-Aug. 31	10	Reported.
Dubuque County (Cascade)....do	5	
Harrison County (Cass Town- ship)	Sept. 1-Sept. 30	
Marion County (Perry Town- ship)	Aug. 1-Aug. 31	1	
Jasper County (Des Moines Township and Vandalia).....do	9	
Polk County (Des Moines).....	June 1-July 4	56	
Wapello County (Ottumwa)....	July 1-Aug. 31	2	
Total for State	83	
Total for State, same period, 1902.	57	
Louisiana:				
New Orleans.....	June 1-Oct. 31	25	1	Two cases imported.
Total for State	25	1	
Total for State, same period, 1902.	5	
Maine:				
Aroostook County (including Grand Isle, Fort Kent, Mada- waska Township, and Van Buren).	July 4-Oct. 30	59	Imported.
Bangor.....	To Oct. 29	86	
Beaver.....	Aug. 28	1	
Belfast.....	Sept. 19	1	
Brewer.....	Sept. 17-Oct. 19	10	Present.
Camden.....	Oct. 29	
Oldtown.....	Sept. 26-Nov. 5	23	Present.
Orono.....	Oct. 29	
Total for State	180	
Total for State, same period, 1902.	11	
Maryland:				
Baltimore.....	June 28-Oct. 17	3	1	
Cumberland.....	May 1-Oct. 31	48	7	
Total for State	51	8	
Total for State, same period, 1902.	5	1	
Massachusetts:				
Boston.....	Oct. 25-Oct. 31	1	On sch. Urozimbo, from Calais, Me.
Cambridge.....	Sept. 27-Oct. 3	1	
Fall River.....	June 20-Sept. 26	67	2	
Haverhill.....	Nov. 1-Nov. 7	1	
New Bedford.....	July 1-Oct. 24	4	
Taunton.....	June 20-Oct. 3	9	
Vineyard Haven.....	Sept. 21	1	
Total for State	84	2	
Total for State, same period, 1902.	364	68	
Michigan				
Detroit.....	June 16-Nov. 7	46	2	Was present in 15 counties at 20 places during week ended Oct. 31, 1903.
Flint.....	June 13-July 4	3	
Grand Rapids.....	June 13-Aug. 22	28	
Marquette.....	Aug. 23-Aug. 29	1	
Port Huron.....	June 13-Oct. 3	52	
Iosco County (Sherman Town- ship).	Sept. 1-Sept. 30	1	
Marquette County (Wells Township).	Aug. 1-Aug. 31	1	
Total for State	130	4	
Total for State, same period, 1902.	119	1	
Minnesota:				
Benton County.....	June 15-July 13	7	
Brown County.....	Aug. 3-Aug. 24	9	
Carver County.....	June 15-July 13	4	
Cass County.....	June 30-July 6	1	
Clay County.....	July 1-July 27	1	1	
Columbia County.....	July 6-July 13	3	
Crow Wing County.....	June 15-Nov. 2	35	
Douglas County.....	July 6-Aug. 24	6	
Fillmore County.....	Sept. 7-Sept. 14	6	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Minnesota—Continued.				
Freeborn County	July 21-July 27	2	
Goodhue County	Oct. 20-Oct. 26	1	
Grant County	June 15-July 20	6	1	
Hennepin County	June 15-Oct. 26	9	1	
Houston County	June 30-July 6	1	
Hubbard County	July 21-July 27	1	
Isanti County	June 15-Sept. 14	12	
Jackson County	June 15-July 13	14	
Kandiyohi County	June 15-Oct. 5	4	
Lac qui Parle County	June 22-June 29	2	
Lincoln County	July 13-Aug. 3	3	
McLeod County	June 22-Aug. 10	4	
Meeker County	June 15-Aug. 3	6	
Morrison County	June 15-Aug. 31	12	
Nobles County	June 15-Aug. 3	3	
Norman County	June 22-June 29	7	
Ottertail County	Oct. 20-Oct. 26	4	
Pine County	June 15-Aug. 3	3	
Pipestone County	June 30-July 6	1	
Polk County	Aug. 24-Nov. 2	2	
Ramsey County	June 15-Sept. 28	24	1	
Redwood County	Oct. 13-Oct. 19	2	
Renville County	June 30-Nov. 2	30	
St. Louis County	June 22-Sept. 14	7	
Scott County	July 6-July 13	1	
Sherburne County	June 15-June 22	1	
Sibley County	June 30-July 6	9	
Stearns County	June 15-Nov. 2	125	1	
Steele County	July 6-July 13	1	
Stevens County	Sept. 14-Oct. 26	8	
Swift County	July 6-Aug. 10	13	
Todd County	July 13-Oct. 12	10	
Waseca County	July 21-Aug. 31	3	
Wilkin County	Aug. 18-Oct. 26	2	
Winona County	July 6-July 13	2	
Wright County	July 6-Oct. 26	7	2	
Yellow Medicine County	June 15-Aug. 31	10	
Kandiyohi County, not previously reported.	21	
Pine County, not previously reported.	9	
Stearns County, not previously reported.	40	
Todd County, not previously reported.	8	
Waseca County, not previously reported.	5	
Other parts of the State not previously reported.	1	
Total for State	507	8	
Total for State, same period, 1902.	1,119	6	
Mississippi:				
Moss Point	Aug. 28	2	
Natchez	July 4-Oct. 19	9	
Total for State	11	
Total for State, same period, 1902.	
Missouri:				
St. Louis	June 16-Oct. 31	37	
Total for State	37	
Total for State, same period, 1902.	285	3	
Montana:				
Helena	June 1-June 30	1	
Total for State	1	
Total for State, same period, 1902.	20	
Nebraska:				
Omaha	Aug. 2-Aug. 15	3	
South Omaha	June 1-July 1	6	
Total for State	9	
Total for State, same period, 1902.	92	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
New Hampshire:				
Manchester	June 13-Oct. 31	34	
Nashua	June 13-June 20	1	
Total for State		35	
Total for State, same period, 1902.		154	1	
New Jersey:				
Bordentown	June 6-June 27	24	5	
Camden	July 5-Oct. 17	8	
Hoboken	Aug. 17-Aug. 23	1	
Jersey City	Oct. 19-Oct. 25	1	
Trenton	June 20-June 27	1	
Total for State		35	5	
Total for State, same period, 1902.		267	58	
New York:				
Elmira	June 13-June 20	2	
New York	July 4-Oct. 31	9	
Niagara Falls	Sept. 6-Oct. 10	7	
Rochester	July 15-July 21	1	
Total for State		19	
Total for State, same period, 1902.		213	54	
North Carolina:				
Alamance County	Aug. 1-Aug. 31	3	
Ashe County	July 1-July 31	1	
Bertie County	July 1-Aug. 31	4	
Buncombe County	May 1-July 31	30	
Burke County	May 1-Aug. 31	11	
Cabarrus County	Aug. 1-Aug. 31	1	
Catawba County	July 1-Aug. 31	3	
Chatham County	May 1-May 31	1	
Cleveland County	May 1-Aug. 31	10	
Columbus County	Aug. 1-Aug. 31	1	
Davie County	May 1-May 31	2	
Durham County	May 1-Aug. 31	29	
Forsyth County	May 1-May 31	25	
Gaston County	July 1-Aug. 31	6	
Graham County	May 1-May 31	2	
Guilford Countydo.....	45	
Henderson Countydo.....	2	
Iredell County	Aug. 1-Aug. 31	5	
McDowell County	May 1-May 31	2	
Madison County	Aug. 1-Aug. 31	20	
Mecklenburg County	May 1-May 31	2	
Moore Countydo.....	1	
New Hanover County	May 1-July 31	2	
Pender County	July 1-July 31	1	
Polk County	July 1-Aug. 31	2	
Randolph County	July 1-July 31	1	
Rockingham County	July 1-Aug. 31	4	
Rutherford County	May 1-July 31	7	
Stanly County	July 1-July 31	4	
Surry County	May 1-Aug. 31	31	
Wake Countydo.....	27	
Warren County	May 1-May 31	3	
Wilkes Countydo.....	2	
Wilson County	May 1-July 31	3	
Yadkin County	July 1-July 31	26	
Total for State		319	
Total for State, same period, 1902.		537	5	
North Dakota:				
Benson County	July 1-Aug. 31	1	
Billings Countydo.....	1	
Bottineau Countydo.....	1	
Cavalier County	May 1-Aug. 31	14	
Grand Forks County	July 1-July 31	2	
Griggs County	May 1-Aug. 31	4	
Morton Countydo.....	a 65	
Nelson County	July 1-Aug. 31	3	
Ramsey Countydo.....	2	
Richland Countydo.....	4	
Sargent Countydo.....	2	

a About.

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
North Dakota—Continued.				
Stark County	May 1-July 31	6	
Trail County	do	3	
Walsh County	July 1-Aug. 31	4	
Total for State		112	
Total for State, same period 1902.		68	1	
Ohio:				
Allen County	May 10-Aug. 8	9	
Ashtabula County	do	3	
Auglaize County	do	25	
Belmont County	do	32	1	
Brown County	do	8	
Butler County (Hamilton included)	do	18	2	
Champaign County	do	6	
Clark County	do	6	
Clermont County	do	1	
Columbiana County (East Liverpool included)	do	18	
Crawford County	do	2	
Cuyahoga County (Cleveland included)	May 10-Oct. 31	16	1	
Defiance County	May 10-Aug. 8	6	
Delaware County	do	25	
Erie County	do	18	6	
Fairfield County	do	1	1	
Fayette County	do	1	
Franklin County (Columbus included)	do	27	3	
Gallia County	do	15	
Geauga County	do	1	
Greene County	do	10	
Guernsey County	do	2	
Hamilton County (Cincinnati included)	May 10-Oct. 30	114	4	
Hancock County	May 10-Aug. 8	18	
Harrison County	do	1	
Henry County	do	43	
Jackson County	do	7	
Jefferson County	do	18	
Lawrence County	do	101	11	
Logan County	do	4	
Lorain County (Lorain included)	May 10-Oct. 3	6	
Lucas County (Toledo included)	May 10-Sept. 5	49	2	
Mahoning County (Youngstown included)	May 10-Aug. 8	8	
Marion County	do	1	
Meigs County	do	2	
Miami County	do	12	2	
Monroe County	do	2	
Montgomery County (Dayton included)	May 10-Oct. 31	72	1	
Morrow County	May 10-Aug. 8	1	
Muskingum County (Zanesville included)	do	49	
Paulding County	do	1	
Pickaway County	do	1	
Preble County	do	7	
Ross County	do	30	
Scioto County	do	9	
Seneca County	do	3	
Stark County	do	34	
Summit County	do	12	
Trumbull County	do	5	
Tuscarawas County	do	29	
Van Wert County	do	9	
Warren County	do	6	
Washington County	do	30	3	
Wyandot County	do	13	
Total for State		947	37	
Total for State, same period, 1902.		2,312	232	
Pennsylvania:				
Allegheny County (Allegheny, Pittsburgh, and McKeesport included)	June 13-Oct. 31	901	161	Five cases imported.
Armstrong County	June 1-Aug. 31	6	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Pennsylvania—Continued.				
Beaver County	June 1-Sept. 30	20	One case imported.
Blair County (Altoona included).	May 1-Oct. 24	16	2	
Butler County (Butler included).	May 1-Sept. 30	31	
Cambria County (Johnstown included).	May 1-Oct. 31	79	6	
Cameron County	May 1-May 31	5	
Carbon County	June 1-June 30	5	
Center County	May 1-May 31	27	
Clarion County	do	2	
Clearfield County	May 1-Sept. 30	167	
Clinton County	July 1-July 31	1	
Columbia County	Aug. 1-Sept. 30	5	
Crawford County	May 1-July 31	11	
Delaware County	May 1-Sept. 30	28	
Elk County	May 1-May 31	3	
Erie County (Erie and Franklin included).	May 1-Oct. 31	5	
Fayette County	May 1-Sept. 30	57	1	
Forest County	May 1-Aug. 31	7	
Indiana County	May 1-July 31	14	
Jefferson County	July 1-July 31	11	
Lackawanna County (Scranton, Carbondale, and Dummore included).	June 7-Sept. 30	69	1	
Lancaster County	Aug. 1-Aug. 31	1	1	
Luzerne County	May 1-May 31	1	
Lycoming County	May 1-July 31	25	
McKean County	June 1-June 30	1	
Mercer County	May 1-Sept. 30	9	
Montgomery County (Norristown included).	May 1-Aug. 31	15	1	
Northampton County	May 1-May 31	19	2	
Perry County	May 1-Aug. 31	40	2	
Philadelphia County	June 20-Nov. 7	382	98	
Pike County	June 1-June 30	2	
Potter County	June 1-July 31	24	
Schuylkill County	May 1-July 31	28	
Sullivan County	Aug. 1-Aug. 31	10	
Susquehanna County	June 1-July 31	128	
Tioga County	May 1-June 30	8	
Venango County	June 1-July 31	2	
Warren County	May 1-May 31	2	
Washington County	May 1-Sept. 30	18	6	
Wayne County	June 1-July 31	8	
Westmoreland County	May 1-Sept. 30	19	1	
Wyoming County	Aug. 1-Aug. 31	3	
Total for State		2,215	282	
Total for State, same period, 1902.		1,366	129	
Rhode Island:				
Providence	Nov. 1-Nov. 7	1	
Total for State		1	
Total for State, same period, 1902.		12	
South Carolina:				
Charleston	June 20-Oct. 17	27	
Greenville	June 20-Sept. 19	5	
Total for State		32	3	
Total for State, same period, 1902.		123	1	
Tennessee:				
Anderson County	Mar. 15-Sept. 15	24	
Blount County	do	4	
Bradley County	do	7	
Campbell County	do	69	2	
Carroll County	do	8	
Carter County	do	30	
Cheatham County	do	1	
Chester County	do	2	
Claiborne County	do	50	2	
Coeke County	do	6	
Coffee County	do	5	1	
Crockett County	do	7	
Cumberland County	do	1	
Davidson County (Nashville included).	do	33	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Tennessee—Continued.				
Franklin County.....	Mar. 15-Sept. 15	13	
Gibson County.....	do	4	
Giles County.....	do	10	
Hamblen County.....	do	31	
Hamilton County (Chattanooga included).	do	783	23	
Hancock County.....	do	12	
Hardeman County.....	do	11	
Hardin County.....	do	1	
Hawkins County.....	do	16	
Haywood County.....	do	17	2	
Henderson County.....	do	9	
Henry County.....	do	40	
Houston County.....	do	3	
Humphreys County.....	do	12	
Jackson County.....	do	15	
James County.....	do	13	
Jefferson County.....	do	79	
Knox County (Knoxville).....	do	186	2	
McMinn County.....	do	3	
Madison County.....	do	14	
Marion County.....	do	33	1	
Marshall County.....	do	1	
Maury County.....	do	1	
Monroe County.....	do	1	
Montgomery County.....	do	1	
Morgan County.....	do	10	
Obion County.....	do	45	
Rhea County.....	do	25	2	
Roane County.....	do	36	1	
Robertson County.....	do	10	
Rutherford County.....	do	4	
Scott County.....	do	15	
Shelby County (Memphis included).	Mar. 15-Nov. 7	59	
Smith County.....	Mar. 15-Sept. 15	13	
Stewart County.....	do	6	
Sullivan County.....	do	2	
Sumner County.....	do	5	
Union County.....	do	20	
Warren County.....	do	28	
White County.....	do	4	
Williamson County.....	do	1	
Total for State.....		1,839	36	
Total for State, same period, 1902.....		2,228	67	
Texas:				
San Antonio.....	July 1-Sept. 30	53	1	
Total for State.....		53	1	
Total for State, same period, 1902.....		1	
Utah:				
Ogden.....	Aug. 1-Aug. 31	1	
Salt Lake City.....	June 6-Oct. 31	46	Two cases imported.
Total for State.....		47	
Total for State, same period, 1902.....		50	1	
Virginia:				
Lynchburg.....	Aug. 1-Aug. 31	1	
Poahontas.....	Aug. 29.....	1	
Total for State.....		1	1	
Total for State, same period, 1902.....		5	1	
Washington:				
Adams County.....	Aug. 1-Aug. 31	1	
Clark County.....	June 1-July 31	51	
Columbia County.....	do	8	
Cowlitz County.....	July 1-Aug. 31	18	
Douglas County.....	June 1-Sept. 30	5	
Island County.....	Aug. 1-Sept. 30	14	
King County (Seattle included)	June 1-Sept. 30	30	3	
Kitsap County.....	June 1-June 30	1	
Lewis County.....	Sept. 1-Sept. 30	16	
Okanogan County.....	June 1-Aug. 31	3	1	
Pierce County (Tacoma included).	do	5	

Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Washington—Continued.				
Skagit County	Sept. 1-Sept. 30	1	Three cases imported.
Snohomish County	June 1-Sept. 30	6	
Spokane County (Spokane included)do.....	26	4	
Stevens County	Sept. 1-Sept. 30	1	
Thurston County	July 1-July 31	4	
Walla Walla County	June 1-Sept. 30	41	
Whitcom County	July 1-Aug. 31	4	
Whitman County	July 1-Sept. 30	13	2	
Yakima County	July 1-Aug. 31	1	
Total for State	249	10	
Total for State, same period, 1902	1,241	1	
West Virginia:				
Jefferson County	Oct. 1-Oct. 15	14	
Wheeling	Mar. 1-Sept. 30	51	7	
Total for State	65	7	
Total for State, same period, 1902	
Wisconsin:				
40 counties, 87 places	Feb. 1-Feb. 28	495	3	
39 counties, 90 places	Mar. 1-Mar. 31	412	4	
31 counties, 50 places	Apr. 1-Apr. 30	194	1	
32 counties, 53 places	May 1-May 31	259	3	
26 counties, 34 places	June 1-June 30	238	
6 counties, 6 places	July 1-July 11	15	
7 counties, 10 places	July 12-July 31	50	
8 counties, 8 places	Aug. 1-Aug. 31	24	
5 counties, 6 places	Sept. 1-Sept. 30	15	1	
Milwaukee	Oct. 4-Oct. 28	18	
Total for State	1,720	12	
Total for State, same period, 1902	797	6	
Grand total	10,902	440	
Grand total, same period, 1902	12,581	660	

[NOTE.—In accordance with custom, the tables of epidemic diseases, with the exception of the plague table in the United States, are terminated semiannually and new tables begun.]

Plague in the United States, as reported to the Surgeon-General, Public Health and Marine-Hospital Service, December 27, 1902, to November 13, 1903.

Place.	Number since Mar., 1900.	Number since Mar., 1903.	Date.	Cases.	Deaths.	Remarks.
California:						
San Francisco	93	Dec. 11	1	1	
Do	94	1	Mar. 16	1	1	
Do	95	2	June 5	1	1	
Do	96	3	July 15	1	1	
Do	97	4	July 19	1	1	
Do	98	5	July 20	1	1	
Do	99	6	July 29	1	1	
Do	100	7	Aug. 9	1	1	
Do	101	8	Aug. 21	1	1	
Do	102	9	Sept. 13	1	1	
Do	103	10	Oct. 7	1	1	
Do	104	11	Oct. 20	1	1	
Do	105	12	Oct. 23	1	1	
Do	106	13do.....	1	1	
Do	107	14	Oct. 29	1	1	
Do	108	15	Nov. 4	a 1	a 1	
Do	109	16	Nov. 6	a 1	a 1	
Do	110	17	Nov. 7	a 1	a 1	

a Provisional diagnosis.

For record of plague in San Francisco for calendar year 1902, see PUBLIC HEALTH REPORTS No. 52, December 26, 1902. A summary of cases since March, 1900, when the first case was officially reported, is as follows: Calendar year 1900, cases, 22; deaths, 22. Calendar year 1901, cases, 30; deaths, 25. Calendar year 1902, cases, 41; deaths, 41.

Total cases of plague from January 1 to November 13, 1903, 17. Total cases of plague same period 1902, 37.

Place.	Date.	Cases.	Deaths.	Remarks.
California:				
Angel Island.....	Sept. 10-Sept. 11	1	1	Case on ss. Colon, from Panama; port of call, Acapulco.
Mississippi:				
Gulf Quarantine, Ship Island..	July 3-July 5	1	1	Case on ss. Mount Vernon, from Limon; discovered at Mobile. Vessel remanded to Gulf Quarantine, Ship Island.
	Sept. 1	1	1	Case on schooner Henrietta J. Powell, from Vera Cruz.
Texas:				
Cannel.....	Oct. 20-Nov. 10	11	1	Mining camp.
Castroville.....	Oct. 21.....	1	
Hondo.....	Oct. 19.....	1	
Laredo.....	Sept. 24-Nov. 10	732	81	
Minera.....	To Nov. 10.....	112	9	Mining camp near Laredo.
San Antonio.....	Oct. 21-Nov. 10	27	7	One case at Fort Sam Houston.
Dewitt County.....	Oct. 26-Nov. 4	5	1.	

[illegible]

Weekly mortality table, cities of the United States—Continued.

Cities.	Week ended—	Population, United States census of 1900.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Yellow fever.	Smallpox.	Variceloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Hamilton, Ohio	Oct. 17	23,914	7							1				
Do	Oct. 24	23,914	11											
Haverhill, Mass.	Oct. 31	37,175	20											
Holyoke, Mass.	do	45,712	10									1		
Jacksonville, Fla.	do	28,429	12	2										
Jersey City, N. J.	Nov. 1	206,433	70	12					1		2	11		
Johnstown, Pa.	Oct. 31	35,936	25			2				3	4			
Kokomo, Ind.	do	10,609	2	1										
Lawrence, Mass.	do	62,559	21	4							1			
Lexington, Ky.	do	26,369	11	1					1					
Los Angeles, Cal.	Oct. 24	102,479	48	12										
Lowell, Mass.	Oct. 31	94,969	23	2							2		1	
Lynchburg, Va.	do	18,891	5	2									1	
McKeesport, Pa.	do	34,227	12	1					3					
Malden, Mass.	Oct. 24	33,664	9	1							1			
Do	Oct. 31	33,664	7											
Manchester, N. H.	do	56,987	27											
Marietta, Ohio	do	13,348	5											
Marquette, Mich.	do	10,058		1										
Medford, Mass.	do	18,244	4	2										
Melrose, Mass.	do	12,962	2											
Mobile, Ala.	do	38,469	20	5										
Nashua, N. H.	do	23,898	5											
Nashville, Tenn.	do	80,865	22	4							1			
New Bedford, Mass.	do	62,442	29	4						2		1		
New Orleans, La.	do	287,104	130	18						1		1		
Newport, Ky.	do	28,301	7											
Newport, R. I.	do	22,034	8	1										
Newton, Mass.	do	33,587	7									1		
New York, N. Y.	do	3,437,202	1,179	167						18	7	29	6	3
Niagara Falls, N. Y.	do	19,457	5											
Norristown, Pa.	do	22,265	9	1						1				
Northampton, Mass.	do	18,643	5	1										
North Adams, Mass.	do	24,200	5											
Omaha, Nebr.	do	102,555	9											
Oneonta, N. Y.	do	7,147	2											
Palmer, Mass.	do	7,801	2											
Philadelphia, Pa.	do	1,293,697	466	68		8				11	6	7	1	2
Pittsburg, Pa.	Oct. 24	321,616	136	7		9				8	1	12		1
Do	Oct. 31	321,616	125	12		3				6		5	1	2
Plainfield, N. J.	do	15,369	6	1										
Port Huron, Mich.	do	19,158	7											
Providence, R. I.	do	175,597	62	7						1			1	
Quincy, Mass.	Oct. 17	23,899	8	1						2				
Do	Oct. 24	23,899	6										2	
Do	Oct. 31	23,899	6											
Reading, Pa.	Nov. 2	78,961	28	3										
San Francisco, Cal.	Oct. 25	342,782	145	11						1		6	1	3
Santa Barbara, Cal.	Oct. 24	6,587	2											
Scranton, Pa.	Oct. 31	102,026	19											
Somerville, Mass.	do	61,643	23	4										
South Bend, Ind.	do	35,999	12											
Steeleton, Pa.	do	12,068	4											
Tacoma, Wash.	Oct. 26	37,714	7							1				
Taunton, Mass.	Oct. 31	31,036	14	1								1		
Titusville, Pa.	do	8,244	6											
Trenton, N. J.	Oct. 30	73,307												
Toledo, Ohio	Oct. 31	131,822	33	3						2		4		1
Waltham, Mass.	do	23,481	8											
Weymouth, Mass.	do	11,324	1											
Williamsport, Pa.	do	28,757	8											
Wilmington, Del.	do	76,508	23	3						1		1		
Winona, Minn.	do	19,714	3											
Worcester, Mass.	Oct. 30	118,421	32	4						1	1			

FOREIGN AND INSULAR.

BRAZIL.

Increase of plague in Rio.

The Consul-General at Rio de Janeiro reports as follows to the Department of State:

November 3, pest increased; disinfection obligatory [on] vessels leaving Rio for Brazil ports.

BRITISH HONDURAS.

Report from Belize, fruit port.

Acting Assistant Surgeon Carson reports, October 26, as follows: Week ended October 25, 1903. Present officially estimated population, 8,500. Number of deaths from all causes during the week, 6. Prevailing disease, mild type of malarial fever. General sanitary condition of this port and the surrounding country during the week, good. The 6 deaths noted above which occurred in this port were all males: 1 white adult, due to pulmonary phthisis; 1 colored adult, caused by spinal injury; and 4 colored infants, due, respectively, to marasmus, cerebral meningitis, tetanus, and "natural causes."

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 20	Alliance.....	15	0	0	0
22	Spero.....	18	3	0	3
23	Anselm.....	40	5	15	6

CHILE.

End of plague at Iquique.

Consul Winans reports to the Department of State, September 26, as follows:

An official communication dated September 25, 1903, from the sanitary commission of this port states that the (alleged) existence of bubonic plague had disappeared from this place.

CHINA.

Reports from Hongkong.

Passed Assistant Surgeon McMullen reports as follows: Week ended September 19, 1903. Eight vessels, with 726 crew and 378 passengers (138 cabin and 240 steerage), were inspected and granted bills of health. Five hundred and sixty-three crew and 230 steerage passengers were bathed and their effects disinfected. One case and 1 death from plague (Chinese) was the only communicable disease reported for the week. The local papers state that plague is present in Newchwang and 500 cases have occurred. For two weeks ended September 21 there were 633 rats caught in Hongkong, and 10 of these were infected with plague.

Week ended September 26, 1903. Eleven vessels, with 832 crew and 642 passengers (203 cabin and 439 steerage), were inspected and granted bills of health. Six hundred and ninety-five crew and 429 steerage were bathed and their baggage (1,172 pieces) disinfected. There were 9 rejections from all causes. The communicable diseases reported for the week were as follows: Cholera, 1 case and 1 death; plague, 2 cases and 2 deaths—all Chinese.

It is reported that 50 or 60 cases of plague are occurring daily at Newchwang.

COLOMBIA.

Report from Bocas del Toro, fruit port.

Acting Assistant Surgeon Osterhout reports, October 28, as follows: Week ended October 27, 1903. Number of deaths during the week 2. Prevailing disease, malarial fever. The two deaths noted were due respectively to malarial fever, 1; tuberculosis, 1. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 21	Brookline	32	0	0	0
23	Belvernon	20	0	0	0
23	Fort Gaines	22	2	0	3
25	Banes	20	0	0	0
27	Uller	16	0	0	0

COSTA RICA.

Report from Limon, fruit port.

Acting Assistant Surgeon Gruver reports, October 30, as follows: Week ended October 29, 1903. Present officially estimated population, 4,000. Number of cases of yellow fever during the week, 2; deaths, 2; number of deaths from other causes during the week, 4; prevailing diseases, malarial and yellow fever. General sanitary condition of this port and the surrounding country during the week, very poor.

Bills of health were issued to the following vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 24	Olympia.....	39	1	0	0
25	Brewster.....	33	0	0	0
26	Valencia.....	44	5	3	0
27	Buckman.....	36	0	0	0
29	Appomattox.....	47	0	0	0

CUBA.

Report from Cienfuegos.

Acting Assistant Surgeon McMahon reports, October 28, as follows: Week ended October 24, 1903. Bills of health were issued to four vessels going to ports in the United States. All in good sanitary condition and no sickness on board of any of them.

The mortuary report for this week and the week previous has not been received up to this date, and it will be forwarded as soon as I can obtain it.

No quarantinable disease has been reported in the city or arrived at this port.

I am making a thorough inspection of the entire city at present and hope to finish this week that I may make a report of the same on November 1.

Outbreak of scarlet fever in Habana, Matanzas, Regla, and Guanabacoa.

Assistant Surgeon Trotter reports, November 2, as follows: Doctor Alfonso, the sanitary inspector of the city government, stated this morning, November 2, that there were about 1,000 cases of scarlet fever in the city. The mortality has been about 7 per cent. Cases are also reported from Matanzas, Regla, and Guanabacoa. The mayor has issued an order closing all public and private schools in Habana. The Junta Superiorde Sanidad are insisting upon isolation of the cases, disinfection of the premises, and other measures tending to the control of the disease.

Reports from Matanzas—Scarlet fever in Canasi—Mortuary statistics.

Acting Assistant Surgeon Nunez reports, November 3, as follows: Week ended October 31, 1903. Six bills of health were issued during same period to vessels leaving for ports in the United States; all in good sanitary condition.

Six cases of scarlet fever, of which 5 occurred at Canasi, a rural town within this district, about 24 miles distant, and 1 in the central part of this city, have been reported during the past week. The contagion in the first and sixth cases was directly traceable to Habana, where, according to local papers, over 400 cases have been reported lately. The epidemic assumes a mild type generally and, so far, shows a low rate of mortality. Strict measures are being taken by the health authorities with the case reported within the city. A permanent guard has been stationed opposite the door to prevent all communica-

tions with the infected house, and every precaution enjoined on the patient and attendants, in order to avoid the propagation of the disease.

Mortuary statistics of the city of Matanzas for the period of ten days ended October 31, 1903, are hereby inclosed. No quarantinable disease has been reported.

Mortuary statistics of Matanzas for the last ten days of October, 1903.

	Number of deaths.	Bertillon number.
Decrepitude.....	2	154
Tuberculosis.....	5	27
Cardiopathy.....	1	79
Organic lesion of heart (not specified).....	1	79
Meningitis.....	1	61
Debility, congenital.....	2	151
Obstruction, intestinal.....	1	108
Tetanus, infantile.....	1	72
Tuberculosis, hip joint.....	1	33
Enteritis.....	2	105
Arterio-sclerosis.....	2	81
Nephritis.....	1	119
Eclampsia.....	1	71
Albuminuria.....	1	9
Total.....	23	

Estimated population, 48,000; annual rate of mortality per 1,000, 17.48.

Report from Santiago—Mortuary statistics.

Acting Assistant Surgeon Wilson reports, October 27, as follows: Week ended October 24, 1903, bills of health were issued to four vessels bound for the United States. No quarantinable disease has been reported. The quarantine authorities are beginning to put the machinery on the San Rafael. This work is progressing slowly. I inclose the weekly abstract of bills of health issued and the mortuary statistics for the week.

Mortuary statistics for the week ended October 24, 1903.

SANTIAGO DE CUBA.

Causes of death.	Number.
Pernicious fever.....	3
Malarial cachexia.....	1
Tubercle of lungs.....	3
Organic heart disease.....	1
Pneumonia.....	2
Gastric ulcer.....	1
Diarrhea and enteritis (under 2 years).....	1
Hepatitis.....	1
Parenchymatous nephritis.....	1
Ovarian cyst.....	1
Placenta previa.....	1
Ill-defined or unspecified.....	2
Total.....	18

Annual rate of mortality for the week 20.57 per 1,000. Estimated population, 45,500.

GERMANY.

Report from Berlin—Death rate compared with other cities.

Consul-General Mason reports, October 30, as follows: Death rate of Berlin for the week ended October 17 was lower than in the

two preceding weeks, amounting, calculated on the year, to 13.8 per thousand of the population, this being also somewhat lower than the rate for the corresponding week of last year, in which it amounted to 14 per thousand. Of the large German cities only the following showed more favorable figures than Berlin, namely: Hanover, Frankfurt-am-Main, Elberfeld, Charlottenburg (with 10.5), and Schöneberg (with 10.1). The following towns, among others, had a considerably higher death rate than that of Berlin, namely: Hamburg, Dresden, Stuttgart, Bremen, Braunschweig, Leipzig, etc., as well as Paris, London, and Vienna. The rate of mortality among infants fell from 4.7 per year and mille to 3.8. There was no important change regarding acute diseases of the respiratory organs, which caused during this week 36 deaths. On the other hand, however, there was again a decrease with regard to acute intestinal diseases, which claimed 64 victims. There were also registered 66 deaths from phthisis pulmonalis, 35 deaths from cancer, 6 deaths from diphtheria, and 6 deaths from scarlet fever. Influenza claimed 3 victims, and 11 persons died by violence.

GUATEMALA.

Report from Livingston, fruit port.

Acting Assistant Surgeon Peters reports as follows for the week ended October 26, 1903: Present officially estimated population, about 3,500. Prevailing diseases, malarial. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 20	Anselma.....	40	3	6
20	Spero.....	17

^a Steamer *Anselm* cleared from Puerto Barrios.

HAWAIIAN ISLANDS.

Outgoing quarantine transactions at Honolulu.

Chief Quarantine Officer Cofer reports, October 19, as follows:

Outgoing quarantine transactions for the weeks ended October 17 and 24:

	Week ending—	
	Oct. 17.	Oct. 24.
Vessels inspected and bills of health issued.....	6	9
Vessels disinfected.....	4	4
Cabin passengers inspected.....	65	18
Steerage passengers inspected.....	35	0
Crew inspected.....	43	135
Pieces of steerage passengers' baggage disinfected and passed.....	44	0
Pieces of crews' baggage disinfected and passed.....	57	131
Hides and skins disinfected.....	0	0
Pieces of freight disinfected.....	0	0

Monthly report of quarantine transactions in the Hawaiian Islands for the month of September, 1903.

PORT OF HONOLULU.

[Incoming quarantine.]

Steam vessels inspected and passed	21
Crew on steam vessels	3,072
Passengers on steam vessels	3,534
Sailing vessels inspected and passed	22
Crew on sailing vessels	334
Passengers on sailing vessels	26
Sick in detention from last month	0
Detention from last month	0
Sick in detention for this month	1
Detention for this month	153
Pieces of baggage disinfected	160
Packages of freight disinfected	0
Vaccinations	0
Steam vessels disinfected	0
Sailing vessels disinfected	1

PORT OF HILO, HAWAII.

Steam vessels inspected and passed	1
Sailing vessels inspected and passed	2
Crew on steam vessels	40
Passengers on steam vessels	14
Crew on sailing vessels	25
Passengers on sailing vessels	3

PORT OF KAHULUI, MAUI.

Steam vessels inspected and passed	0
Crew on steam vessels	0
Passengers on steam vessels	0
Sailing vessels inspected and passed	1
Crew on sailing vessels	11
Passengers on sailing vessels	4

PORT OF LAHAINA, MAUI; PORT OF KOLOA, KAUAI. NO TRANSACTIONS.

Outgoing quarantine transactions at Hilo.

Outgoing quarantine transactions at Hilo, island of Hawaii, for the week ended October 10: Number of sailing vessels disinfected, then inspected and passed, 1; number of pieces of baggage disinfected, 11; number of crew inspected and passed, 11.

Routine taking temperature of passengers discontinued.

[Cablegram.]

HONOLULU, HAWAII, November 4, 1903.

WYMAN, Washington:

[Taking] temperature cabin passengers now discontinued account of improvement in health in Orient.

COFER.

HONDURAS.

Report from Puerto Cortez, fruit port.

Acting Assistant Surgeon Carter reports as follows: Week ended October 27, 1903: Present officially estimated population, 2,125. Pre-

vailing diseases, malarial fever of mild form and intestinal diseases. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 21	Alice	17	0	0	0
22	Anselm	40	14	3	20
23	Espana	14	2	0	6
24	Hiram	14	1	0	1
24	Habil	15	3	0	5

INDIA.

Reports from Calcutta.

Passed Assistant Surgeon Sprague reports October 8, as follows: Week ended October 3, 1903, I inspected one vessel carrying a total of 31 officers and crew; all Europeans. There were no rejections.

Week ended October 10, 1903, there were 6 deaths from so-called sporadic cholera and 17 from plague, none of which were connected with the port or shipping. The average number of deaths from cholera for the same period for the past five years is 20 and from plague 18. The total deaths for the period were 358, giving an average annual death rate of 21.9 per thousand, the lowest for the past five years, the average for which is 31.4. In 1900 the rate ran to 53.4, nearly double the usual, making the average equal or exceeding that of the remaining four years.

There were inspected the steamer *Wartberg*, bound for Boston and New York, carrying 35 lascars, whose clothing and effects were disinfected, and 23 Europeans; no rejections. And the steamer *Okla*, bound for Manila, carrying 81 lascars, whose clothing and effects were disinfected, and 10 Europeans; no rejections.

ITALY.

Report from Naples—Plague in Mauritius.

Passed Assistant Surgeon Eager reports as follows: Week ended October 17, 1903, the following ships were inspected at Naples:

NAPLES.

Date.	Name of ship.	Destination.	Steerage passengers inspected and passed.	Pieces of large baggage inspected and passed.	Pieces of baggage disinfected.	Number of steerage passengers recommended for rejection.
Oct. 13	Cambroman	Boston	952	290	1,355	35
14	Citta di Milano	New York	1,092	170	1,510	36
15	Prinz Oscar	do	1,079	160	1,347	35
16	Lahn	do	684	180	1,052	20
16	Patris	do	520	100	780	13
17	Calabria	do	655	170	1,140	22

BUBONIC PLAGUE IN MAURITIUS.

Telegrams from the governor of Mauritius state that during the week ended September 24, 1903, there were 47 cases of bubonic plague in the island, 39 fatal; and 19 cases, 54 deaths, during the week ended October 8.

JAPAN.

Reports from Yokohama—Plague persists.

Assistant Surgeon Moore reports October 9 as follows: Week ended October 3, 1903. Two vessels, having an aggregate personnel of 107 crew and 151 passengers, were inspected.

For the above period infectious diseases were reported in Yokohama as follows: Enteric fever, 10 cases, 2 deaths; diphtheria, 2 cases, no deaths; diphtheria (doubtful), 1 case, 1 death; plague, 3 cases, no deaths; dysentery, 16 cases, 4 deaths. Two additional cases of pest have been reported in the press since October 3, but no new infected foci have developed.

Week ended October 10, 1903. Eight vessels, having an aggregate personnel of 726 crew and 1,117 passengers, were inspected, 231 steerage passengers were bathed, and 327 pieces of baggage were disinfected.

The official report of infectious diseases in Yokohama for the above period includes the following: Cholera, 1 case, 1 death; enteric fever, 10 cases, 3 deaths; diphtheria, 2 cases, 1 death; plague, 1 case, 0 deaths; doubtful plague, 1 case, 1 death; dysentery, 3 cases, 0 deaths.

The above-noted case of cholera is the first reported in this city during the present year. The patient resided in an outlying district of the city quite remote from the center of shipping activity. It is not believed probable that the case is other than a sporadic one. Cholera cases have been reported from a number of localities in Japan during the present season, but nowhere has the disease assumed anything like an epidemic character.

Plague seems to remain a fixture in Yokohama. No new foci of infection have, however, recently developed.

Would-be passengers recommended for rejection.

On steamship <i>Coptic</i> , for Honolulu.....	62
On steamship <i>Tosa Maru</i> , for Seattle.....	5
On steamship <i>America Maru</i> , for San Francisco.....	15
On steamship <i>America Maru</i> , for Honolulu.....	67

MEXICO.

Report from Progreso.

Acting Assistant Surgeon Harrison reports as follows: Week ended October 31, 1903. Present officially estimated population, about 8,000. Number of deaths during the week, 3. Prevailing diseases, none. One case of yellow fever reported last week still in the lazaretto, but convalescing. The three deaths were from meningitis, swamp fever, and gastro-enteritis. General sanitary condition of this port and the surrounding country during the week, good. Merida still infected with yellow fever, there being 10 to 15 cases in lazaretto, and 2 or 3 deaths during week from the fever.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 26	Am. ss. Vigilancia	New York	77	42	20
27	Ger. ss. Alps	New Orleans	20
27	Nor. ss. Ulrican	Boston	22
27	Nor. ss. Alm	Mobile	22	2
27	Am. sch. Nan M. Dantzler	Ship Island	7
29	Am. sch. Susie B. Dantzler	Pasagoula	8
30	Nor. ss. Dagry	New York	17

a Via Campeche.

Report from Tampico—Decrease of mosquitoes.

Temporary Acting Assistant Surgeon Lippincott reports as follows:
Week ended October 24, 1903—

Bills of health issued	5
Vessels inspected and passed	4
Vessels disinfected and passed	1
Personnel of crew	209
Passengers	135
Baggage, pieces	116

There were 23 deaths from all causes, of which 1 was from yellow fever, 4 from tuberculosis, 1 from pernicious fever, and 17 from non-contagious causes. There were no new cases of yellow fever reported during the week, and but 8 left from the previous week.

The situation has apparently improved. The temperature has fallen from the recent northers, which probably holds the infection in check.

I find very few stegomyia existing since the last norther, which occurred on the 17th, while there is a noted increase in the anopheles.

The surrounding country is still badly infected.

Two cases yellow fever at Dona Cecilia—Mosquitoes increasing.

TAMPICO, MEXICO, November 6, 1903.

WYMAN, Washington:

Condition uncertain; 2 new cases at Dona Cecilia since October 31. Mosquitoes increasing.

LIPPINCOTT.

[Doctor Lippincott was directed to continue the fumigation for mosquitoes, of vessels bound for the United States.]

NICARAGUA.

Reports from Bluefields—fruit port.

Acting Assistant Surgeon Goodman reports, October 25, as follows:
Week ended October 24, 1903. Present officially estimated population, 4,000. Number of deaths during the week, 1; prevailing diseases, malarial fever and enteric troubles; general sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 18	Geo. Dumois.....	20	0	0	0
22	Nicaragua.....	18	7	0	10

Week ended October 31, 1903. Present officially estimated population, 4,000. Number of deaths during the week, 1. Prevailing disease, malarial fever. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following-named vessels:

Date.	Name of vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
Oct. 25	Alabama.....	18	0	0	0
25	Agnes.....	13	0	0	0
29	Condor.....	16	2	0	2

NORWAY.

[Translation.]

Proclamation from department of justice and police concerning quarantine.

Consul General Bordewich sends the following:

A royal proclamation was made on the 17th instant as follows:

"It is hereby ordered, in compliance with section 2 in law of July 12, 1848, relating to quarantine, that the city of Yokohama in Japan and New Caledonia in Australia shall, until further notice, be considered infected with the oriental plague, and the regulations laid down in said law and in circular of October 13, 1900, regarding plague, etc., are to take effect at once.

"At the same time it is hereby made public that the city of Mazatlan in Mexico and Callao in Peru, which by proclamations of March 24 and May 29, 1903, were declared infected with the oriental plague, shall not be considered as so infected any longer.

"With which all concerned respectively have to comply.

"Which is hereby brought to public notice, while it must be remembered that, according to prior proclamations of February 1, 1897, June 27 and August 22, 1899, May 23, 1900, February 28, 1901, March 20, May 22, June 16, and December 1, 1902, March 24, May 29, and July 21, 1903, Arabia, Persia, India, Hanoi in Tonkin, China, Manila, Formosa, Egypt, Madagascar, Reunion Islands, and Mauritius, the cities of Durban, Port Elizabeth, and East London in South Africa, Porte Alegre and Paranagua, Rio de Janeiro, Compos, Victoria, and Rio Grande in Brazil, also the ports in Chile, shall until further notice be considered infected with the oriental plague.

"A number of copies of this proclamation are inclosed.

"Christiania, October 19, 1903.

"SREN AARSTAD.

"GEORG JØHANNESSEN."

PHILIPPINE ISLANDS.

Reports from Manila and the provincial towns—Cholera, smallpox, and plague.

Chief Quarantine Office Heiser reports September 25, as follows: Week ended September 19, 1903, the number of quarantinable diseases reported in Manila were as follows: Cholera, 93 cases, 81 deaths; smallpox, 1 case, 0 deaths; plague, 2 cases, 2 deaths.

Week ended September 26, 1903, the number of quarantinable diseases reported in Manila were as follows: Cholera, 55 cases, 53 deaths; smallpox, 1 case, 1 death; plague, no cases, no deaths.

Report of cholera occurring in provincial towns in the Philippine Islands.

WEEK ENDED SEPTEMBER 19, 1903.

Place.	Province.	Cases.	Deaths.
Barasoain	Bulacan	2	1
Meycauayan	do	3	3
San Miguel de Mayumo	do	3	4
Malolos	do	4	1
Obando	do	1	1
Bulacan	do	1	1
Balluag	do	1	1
Bocaue	do	2	2
San Juan	Nueva Ecija	3	3
San Isidro	do	1	1
Cuyapo	do	1	1
Licab	do	14	14
Aparri	Cagayan	9	8
Camalaniugan	do	7	3
Buguey	do	3	2
Sanchez	do	15	15
San Mateo	Rizal	1	1
Montalban	do	1	1
San Carlos	Pangasinan	13	7
Lingayen	do	3	3
Naig	Cavite	1	1
Lilio	Laguna	19	20
Santa Cruz	do	1	1
Calamba	do	6	1
Aniniy	do	13	8
Guisipan	do	8	4
Pandan	do	11	4
Batangas	Batangas	17	10
Ibaan	do	1	1
Bauan	do	1	1
Santo Tomas	do	1	1
Ilogan	Isabella	6	3
Botolan	Zambales	3	2
Cebu	Island of Cebu	4	2
Pardo	do	16	16
Barili	do	112	112
Ginatilan	do	181	131
Balamban	do	25	23
San Fernando	do	140	140
Tuburan	do	171	86
Danao	do	62	62
Bojocan	do	114	114
San Sebastian	do	6	6
Santander	do	55	55
Asturias	do	3	3
Dumanjug	do	22	22
Moulbual	do	85	85
Osloc	do	211	212
Alcoy	do	32	32
Nueva Caceres	do	115	57
Tagilaran	Island of Bohol	24	21
Iloilo	Island of Panay	14	13
Jaro	Province of Iloilo	15	9
La Paz	do	28	25
San Miguel	do	3	3
Capiz	Province of Capiz	10	9
Panay	do	5	4
Calabao	do	3	2
Pandan	Province of Antique	11	9

Report of cholera occurring in provincial towns in the Philippine Islands—Continued.

WEEK ENDED SEPTEMBER 19, 1903—Continued.

Place.	Province.	Cases.	Deaths.
Aninity.....	Province of Antique.....	6	2
Dao.....	do.....	13	12
Guisijan.....	do.....	13	10
Tibao.....	do.....	14	14
Ginigaran.....	Island of Negros.....	51	31
Suay.....	do.....	4	4
Bacolod.....	do.....	5	3
Sumag.....	do.....	17	10
San Carlos.....	do.....	7	7
Total.....		1,772	1,473

WEEK ENDED SEPTEMBER 26, 1903.

San Miguel de Mayumo.....	Bulacan.....	3	2
Malolos.....	do.....	1	1
Obando.....	do.....	2	2
Bulacan.....	do.....	1	1
Baliuag.....	do.....	2	1
Santa Isabel.....	do.....	1	1
Bocane.....	do.....	1	1
Nempicuan.....	Nueva Ecija.....	10	6
Licab.....	do.....	8	8
Aliaga.....	do.....	4	3
Cabanatuan.....	do.....	10	10
Orani.....	Bataan.....	6	3
Pilar.....	do.....	3	3
Balanga.....	do.....	3	3
Mataban.....	do.....	1	1
Aparri.....	Cagayan.....	9	8
Buguey.....	do.....	1	1
Mariquina.....	Rizal.....	1	1
San Mateo.....	do.....	2	2
Cavite.....	Cavite.....	1	1
Naig.....	do.....	5	6
Victoria.....	Tarlac.....	39	23
Batangas.....	Batangas.....	6	5
Botolan.....	Zambales.....	5	5
Baybay.....	Island of Leyte.....	7	7
Bato.....	do.....	52	36
Bantayan.....	Island of Cebu.....	46	46
Naga.....	do.....	52	52
San Remigio.....	do.....	15	15
Danao.....	do.....	10	8
Consolacion.....	do.....	4	4
Dalaguete.....	do.....	219	219
Madridejos.....	do.....	180	29
Puro.....	do.....	9	9
Sogod.....	do.....	52	52
Santa Fe.....	do.....	219	112
Ronda.....	do.....	58	58
Tagbilaran.....	Island of Bohol.....	26	21
Iloilo.....	Island of Panay.....		
Jaro.....	Province of Iloilo.....	10	10
La Paz.....	do.....	7	4
Tigbauan.....	do.....	2	1
Zarraga.....	do.....	13	6
Cabatuan.....	do.....	31	31
Santa Barbara.....	do.....	17	10
Capiz.....	do.....	6	2
Caliva.....	Province of Capiz.....	1	1
Aninity.....	do.....	2	1
Dao.....	Province of Antique.....	32	22
Antique.....	do.....	6	4
Ginigaran.....	do.....	1	1
Suay.....	Island of Negros.....	41	41
Bacolod.....	do.....	9	5
Sumag.....	do.....	5	4
Pontavedra.....	do.....	4	3
Bulupanadan.....	do.....	6	6
San Carlos.....	do.....	1	1
Jasaan.....	Island Mindanao.....	7	5
	Province of Misamis.....		
Total.....		54	42
Total.....		1,329	966

*Quarantine transactions of the Service in the Philippine Islands for the week ended
September 5, 1903.*

PORT OF MANILA.

Bills of health issued:

To steamers for United States ports.....	0
To steamers for foreign ports.....	17
To steamers for domestic ports.....	55
To sailing vessels for United States ports.....	0
To sailing vessels for foreign ports.....	1
To sailing vessels for domestic ports.....	26
Total.....	99

Number of vessels inspected:

Steamers from United States ports.....	2
Steamers from foreign ports.....	13
Steamers from domestic ports.....	38
Sailing vessels from United States ports.....	0
Sailing vessels from foreign ports.....	1
Sailing vessels from domestic ports.....	20
Total.....	74

Number of passengers on arriving boats inspected:

On steamers, cabin.....	455
On steamers, steerage.....	956
On sailing vessels, cabin.....	1
On sailing vessels, steerage.....	75
Total.....	1,487

Number of crew on arriving steamers inspected.....	2,576
Number of crew on arriving sailing vessels inspected.....	263
Number of persons vaccinated.....	0
Number of persons quarantined for observation, suspects and contacts.....	0
Number of persons bathed and effects disinfected.....	102
Number of vessels disinfected.....	0
Number of steamers fumigated to kill rats on board.....	1
Number of sailing vessels fumigated to kill rats on board.....	3
Number of steamers remaining in quarantine from last week.....	0
Number of sailing vessels remaining in quarantine from last week.....	1
Number of vessels entering quarantine.....	0
Number of steamers remaining in quarantine September 5.....	0
Number of sailing vessels remaining in quarantine September 5.....	0
Number of pieces of baggage disinfected on steamers.....	270
Number of pieces of baggage disinfected on sailing vessels.....	0
Number of pieces of baggage inspected and passed on steamers.....	140
Number of pieces of baggage inspected and passed on sailing vessels.....	0

PORT OF CEBU.

Bills of health issued:

To steamers for United States ports.....	0
To steamers for foreign ports.....	3
To steamers for domestic ports.....	28
To sailing vessels for United States ports.....	0
To sailing vessels for foreign ports.....	0
To sailing vessels for domestic ports.....	2
Total.....	33

Number of vessels inspected:

Steamers from United States ports.....	0
Steamers from foreign ports.....	3
Steamers from domestic ports.....	32
Sailing vessels from United States ports.....	0

Number of vessels inspected—Continued.

Sailing vessels from foreign ports	0
Sailing vessels from domestic ports	39
Total	74

Number of passengers on arriving boats inspected:

On steamers, cabin	26
On steamers, steerage	409
On sailing vessels, cabin	0
On sailing vessels, steerage	1
Total	436

Number of persons vaccinated	0
Number of crew on arriving steamers inspected	1,061
Number of crew on arriving sailing vessels inspected	285
Number of persons quarantined for observation, suspects and contacts	0
Number of persons bathed and effects disinfected	0
Number of vessels disinfected	0
Number of vessels fumigated to kill rats on board	0
Number of vessels remaining in quarantine from last week	0
Number of vessels remaining in quarantine September 5	0

PORT OF ILOILO.

Bills of health issued:

To steamers for United States ports	0
To steamers for foreign ports	2
To steamers for domestic ports	18
To sailing vessels for United States ports	0
To sailing vessels for foreign ports	0
To sailing vessels for domestic ports	32
Total	52

Number of vessels inspected:

Steamers from United States ports	0
Steamers from foreign ports	3
Steamers from domestic ports	19
Sailing vessels from United States ports	0
Sailing vessels from foreign ports	0
Sailing vessels from domestic ports	36
Total	58

Number of passengers on arriving boats inspected:

On steamers, cabin	32
On steamers, steerage	439
On sailing vessels, cabin	0
On sailing vessels, steerage	202
Total	673

Number of persons vaccinated	0
Number of crew on arriving steamers inspected	835
Number of crew on arriving sailing vessels inspected	328
Number of persons quarantined for observation, suspects and contacts	0
Number of persons bathed and effects disinfected	0
Number of vessels disinfected	0
Number of vessels remaining in quarantine from last week	0
Number of vessels remaining in quarantine September 5	0

PORT OF JOLO.

Bills of health issued:

To steamers for United States ports	0
To steamers for foreign ports	1
To steamers for domestic ports	3

Bills of health issued—Continued.

To sailing vessels for United States ports.....	0
To sailing vessels for foreign ports.....	0
To sailing vessels for domestic ports.....	1

Total.....	5
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Number of vessels inspected:

Steamers from United States ports.....	0
Steamers from foreign ports.....	0
Steamers from domestic ports.....	4
Sailing vessels from United States ports.....	0
Sailing vessels from foreign ports.....	1
Sailing vessels from domestic ports.....	1

Total.....	6
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Number of passengers on arriving boats inspected:

On steamers, cabin.....	9
On steamers, steerage.....	35
On sailing vessels, cabin.....	2
On sailing vessels, steerage.....	2

Total.....	48
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Number of persons vaccinated.....	0
Number of crew on steamers inspected.....	183
Number of crew on sailing vessels inspected.....	14
Number of persons quarantined for observation, suspects and contacts.....	0
Number of persons bathed and effects disinfected.....	0
Number of vessels disinfected.....	0
Number of vessels remaining in quarantine from last week.....	0
Number of vessels remaining in quarantine September 5.....	0

PORTO RICO.

Report from Ponce.

Acting Assistant Surgeon Torres reports, October 24, through the chief quarantine officer for Porto Rico, as follows: Week ended October 24, 1903. Two vessels were inspected and four bills of health were issued. One of the vessels inspected was passed and one held under guard.

The sanitary condition of the port and vicinity is good. No quarantinable disease is known to be present.

Report of immigration at Ponce.

Report of alien passengers arriving at Ponce during the week ended October 24, 1903.

Date of arrival.	Vessel.	Where from.	Number of immigrants.
Oct. 18	Julia	Habana, Nuevitas, Gibara, Baracoa, Santiago de Cuba, Santo Domingo, Macoris.	10
21	Montserrat	Habana, Puerto Limon, Colon, Sabanailla, Curaçao, Puerto Cabello, La Guaira.	1
	Total		11

Report of immigration at subports of Porto Rico.

Assistant Surgeon King reports, October 26, as follows:

Report of alien passengers arriving during the week ended October 24, 1903, at the six subports of Porto Rico.

Date of arrival.	Vessel.	Where from.	Number of immigrants.
	MAYAGUEZ.		
Oct. 18	Julia	Habana, Nuevitas, Baracoa, Santiago, Santo Domingo, Macoris.	2
24	Pio IX.....	Barcelona, Mallorca, Valencia, Malaga, Cadiz, Las Palmas, St. Cruz de Tenerife.	3
	Total		5

At the subports of Arecibo, Humacao, Aguadilla, Fajardo, and Arroyo, P. R., there were no transactions.

Foreign and insular statistical reports of countries and cities—Yearly and monthly.

BAHAMAS—Dunmore Town.—Four weeks ended October 23, 1903. Population, 1,232. One death reported.

Green Turtle Cay Abaco.—Two weeks ended October 21, 1903. Population, 3,314. No deaths reported.

Governors Harbor.—Two weeks ended October 10 and October 24. Population, 1,500. No deaths reported.

Inagua.—Three weeks ended September 30, 1903. Population, 2,000. Three deaths; no deaths from contagious diseases.

Long Cay.—Week ended October 3, 1903. Population, 3,661. No deaths reported.

Nassau.—Two weeks ended October 26, 1903. Population, 12,390. No deaths reported.

BRITISH GUIANA—Demerara.—Four weeks ended September 26, 1903. Population, exclusive of Georgetown, the capital, 86,250. Total number of deaths 217, including smallpox 1, and 23 from tuberculosis. There were reported in the county of Demerara 1,475 cases of smallpox and 6 deaths from the 10th of February to the 26th of September.

CANADA—Hamilton.—Month of October 1903. Population, 55,000. Total number of deaths 72, including diphtheria 3, enteric fever 2, scarlet fever 1, and 3 from tuberculosis.

CANARY ISLANDS—Grand Canary.—Week ended October 17, 1903. Population, 49,500. Total number of deaths 18. No deaths from contagious diseases reported.

CHILE—Iquique.—Month of May, 1903. Estimated population, 30,000. Total number of deaths 134, including 3 from bubonic plague.

FRANCE—Marseille.—Month of September, 1903. Population, 491,161. Total number of deaths 835, including diphtheria 2, enteric fever 30, measles 8, scarlet fever 1, and 5 from whooping cough.

GERMANY—*Hanover*.—Month of August, 1903. Population, 248,851. Total number of deaths, 183, including 46 from contagious and infectious diseases.

GREAT BRITAIN—*England and Wales*.—The deaths registered in 76 great towns in England and Wales during the week ended October 24, 1903, correspond to an annual rate of 15.9 per 1,000 of the aggregate population, which is estimated at 15,075,011.

London.—One thousand three hundred and thirty-three deaths were registered during the week, including measles 18, scarlet fever 7, diphtheria 12, whooping cough 10, enteric fever 14, and diarrhea 67. The deaths from all causes correspond to an annual rate of 15.1 per 1,000. In Greater London 1,810 deaths were registered. In the "outer ring" the deaths included 1 from diphtheria, 1 from measles, 5 from scarlet fever, and 1 from whooping cough.

Ireland.—The average annual death rate represented by the deaths registered during the week ended October 24, 1903, in the 21 principal town districts of Ireland was 19.8 per 1,000 of the population, which is estimated at 1,093,289. The lowest rate was recorded in Dundalk, viz, 0, and the highest in Sligo, viz, 38.4 per 1,000. In Dublin and suburbs 164 deaths were registered, including enteric fever 2, whooping cough 1, and 29 from tuberculosis.

Scotland.—The deaths registered in 8 principal towns during the week ended October 24, 1903, correspond to an annual rate of 16.7 per 1,000 of the population, which is estimated at 1,702,912. The lowest rate of mortality was recorded in Leith, viz, 11.8, and the highest in Greenock, viz, 21 per 1,000. The aggregate number of deaths registered from all causes was 546, including diphtheria 4, measles 16, scarlet fever 4, and 8 from whooping cough.

JAPAN—*Nagasaki*.—Ten days ended October 10, 1903. Population, 148,883. Number of deaths not reported. One death from diphtheria and 1 from enteric fever reported.

MALTA.—Two weeks ended October 17, 1903. Estimated population, 193,315. Total number of deaths, 195, including diphtheria 2, and 3 from enteric fever.

PHILIPPINE ISLANDS—*Manila*.—Month of June, 1903. Estimated population, 302,154. Total number of deaths, 592, including Asiatic cholera 38, enteric fever 7, plague 22, smallpox 2, and 89 from tuberculosis.

PORTO RICO.—Month of September, 1903. Census population, 953,243. Total number of deaths, 1,931, including enteric fever 4, and 125 from tuberculosis.

SOUTHEAST AFRICA—*Lourenço Marquez*.—Month of August, 1903. Estimated population, 7,000. Total number of deaths, 79. Eight deaths from tuberculosis reported.

Cholera, yellow fever, plague, and smallpox, June 27, 1903, to November 13, 1903.

[Reports received by the Surgeon-General, Public Health and Marine-Hospital Service, from United States consuls through the Department of State and from other sources.]

[For reports received from December 27, 1902, to June 26, 1903, see PUBLIC HEALTH REPORTS for June 26, 1903.]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy	July 19-Aug. 1	650	
Hankow	Sept. 5-Sept. 19	4	2	
Hongkong	June 6-Aug. 29	8	3	
Shanghai	Aug. 1-Sept. 19	83	Two cases from a vessel.
Tientsin	Sept. 5-Sept. 19	3	1	Imported via ss. Shenkin
India:				
Bombay	May 20-Aug. 22	19	
Calcutta	May 22-Oct. 10	281	
Chefoo	Sept. 5-Sept. 12	1	1	
Karachi	June 1-June 7	1	
Madras	June 6-Oct. 9	21	
Japan:				
Kobe	Sept. 27-Oct. 3	2	1	
Nagasaki	Aug. 11-Aug. 20	2	1	
Yokohama	Oct. 4-10	1	1	
Philippine Islands:				
Manila	May 2-Sept. 26	611	529	
Provincesdo	22,977	17,008	
Straits Settlements:				
Singapore	May 16-Sept. 5	209	
Turkey:				
Arghani-Maaden	Oct. 6	2	
Damascus	Sept. 1-Sept. 15	Fifteen to 20 cases daily.
Gerger	Oct. 6	4	
Syria	Aug. 8-Oct. 17	5,560	1,365	
Tripoli	Sept. 1-Sept. 15	Do.

YELLOW FEVER.

Brazil:				
Pernambuco	June 16-June 30	1	
Rio de Janeiro	May 17-Oct. 11	31	Three new cases.
Colombia:				
Panama	June 8-Sept. 28	43	15	
Costa Rica:				
Limon	June 11-Oct. 29	49	29	One case on ss. Westgate.
Matina	Aug. 20	2	
San Josédo	2	Imported.
Zentdo	4	
Cuba:				
Havana	July 7-Oct. 9	5	1	One from Ward Line ss. Vigilancia, from Progreso; 1 from Sp. ss. Alfonso XIII; one on Am. ss. Monterey, from Progreso, and 2 on Ger. ss. Prinz Adalbert, from Vera Cruz and Tampico.
Ecuador:				
Guayaquil	May 2-July 25	8	
Jamaica:				
Port Royal	Oct. 11-Oct. 17	4	
Mexico:				
Altamira	July 18	Present.
Cardenas	July 10	
Citas	Aug. 23-Oct. 10	147	54	
Ciudad Victoria	Oct. 4-10	20	
Coatzacoalcas	July 19-Aug. 29	3	1	One case imported.
Doña Cecilia	July 11-Nov. 4	2	
El Higo	Aug. 15	Present.
Guadalupe	To Oct. 10	1,377	296	
Merida	Jan. 1-Oct. 10	174	68	
Mexico	Aug. 10-Oct. 4	3	
Monterey	Nov. 7	500	
Motul	Sept. 6-Sept. 26	1	
Motzorongo	July 20	Do.
Nuevo Laredo	Sept. 15-Oct. 30	62	18	
Orizaba	May 17-July 6	12	Eleven cases imported from Vera Cruz.
Progreso	Jan. 1-Oct. 11	18	4	
Quintana Roo	Sept. 26	1	1	
Salina Cruz	Aug. 9-Sept. 26	15	10	
San Luis Potosí	July 31	Present.
Tampico	June 13-Oct. 24	300	One on American schooner Al-verda S. Elzey.
Tamuín	Aug. 15	Present.
Tehuantepec	Aug. 9-Oct. 10	10	
Terán	Aug. 27	Do.

Cholera, yellow fever, plague, and smallpox, etc.—Continued.

YELLOW FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico—Continued.				
Tierra Blanca	July 20	Present.
Valladolid	Aug. 9-Sept. 26	2	
Vera Cruz	June 13-Oct. 17	806	264	One from Br. ss. Trader, proba-
Victoria	Aug. 10	3	1	bly infected on shore. One on
Zongolica	To July 11	5	Br. ss. Kassala, probably in-
				fected on shore.
Venezuela:				
Barquesimeto	July 31-Aug. 27	Present.
Cagua	Sept. 1	Do.
Caracas	Sept. 15	1	
Maracaibo	July 5-July 11	1	1	
Puerto Cabello	Sept. 20-Sept. 26	1	
Tocuyo	July 31-Aug. 27	Do.

PLAGUE.

Africa:				
Cape of Good Hope (Port Elizabeth, East London, King Williams Town, and Queenstown included).	May 2-Sept. 19	76	9	
Natal (Durban and Pietermaritzburg included).	Apr. 18-July 25	22	8	
Australia:				
Queensland, Brisbane	May 9-Sept. 12	21	11	
Bundaberg	May 16-June 13	3	1	
Townsville	Sept. 4	1	1	
Western Australia, Freemantle	June 10	1	
New South Wales, Sydney	June 13-July 11	2	
Bolivia:				
La Paz	Aug. 13	Present.
Brazil:				
Rio de Janeiro	May 24-Oct. 11	110	Forty-eight new cases.
Sergipe	Sept. 30	Prevailing.
Chile:				
Concepcion, vicinity of	July 11	Present.
Iquique	May 15-Aug. 17	170	101	
Pisagua	July 11	Do.
Valparaiso	To Aug. 24	9	2	
China:				
Amoy	May 10-Aug. 1	1,740	Estimated.
Canton	May 12	Increasing.
Fuchau	July 15	Becoming epidemic.
Heung Shan	May 12	Do.
Honam	Increasing.
Hongkong	May 2-Sept. 26	577	
Inkow	Sept. 7	Present.
Newchwang	Sept. 5-Sept. 19	104	79	
Sgun Tak	May 12	Increasing.
Yetung Kong	Do.
Egypt:				
Alexandria	May 19-Oct. 10	100	62	
Beni Mazar	June 6-June 19	3	
Damiette	June 13-Oct. 1	26	17	
Port Said	May 23-Aug. 7	22	10	
Tantah	June 20-July 9	7	3	
District of Embabek	May 30-June 6	1	1	
District Galiab	1	1	
District Magagha	May 23-June 6	3	2	
District Minieh	1	
District Samalut	May 23-June 13	3	
District Tukh	May 30-June 27	25	4	
France:				
Marseille	To Sept. 15	10	5	
Formosa	Jan. 1-Aug. 31	914	748	
Germany:				
Berlin	June 5-June 18	1	Nurse of case previously re-
Hawaiian Islands:				
Hilo	Sept. 15	2	2	ported.
Honolulu	June 24-Sept. 12	6	4	
India:				
Bombay Presidency and Sind—				
Northern Division	May 2-Sept. 19	4,681	4,006	
Central Division	19,402	10,413	
Southern Division	27,736	19,726	
Sind	685	519	
Political charges	16,191	11,671	

Cholera, yellow fever, plague, and smallpox—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India—Continued.				
Madras Presidency	May 2-Sept. 19		7,946	
Bengal—				
Calcutta	do		276	
Presidency	do	143	138	
Burdwan	do	73	70	
Bhagalpur	do	20	17	
Patna	do	827	706	
United Provinces—				
Allahabad	do	226	207	
Benares	do	581	339	
Fyzabad	do	183	167	
Gorakhpur	do		169	
Meerut	do		475	
Lucknow	do	316	302	
Agra	do		73	
Rohilkhand	June 6-Sept. 19	2	2	
Punjab—				
Jullunder	May 2-Sept. 19	19,138	11,805	
Lahore	do	21,939	13,169	
Rawalpindi	do	17,687	11,314	
Multan	do	930	505	
Delhi	do	7,784	5,821	
Burma—				
Rangoon	do	1		
Central Provinces—				
Nerbudda	do	458	427	
Nagpur	do	243	200	
Jubbulpore	do	94	54	
Assam	May 16-Sept. 19	36	8	
Coorg	June 6-Sept. 19	59	23	
Mysore State	May 2-Sept. 19	5,097	3,756	
Hyderabad	do	3,466	2,858	
Berar	do		1,633	
Rajputana	do	94	68	
Central India	do	7,244	5,135	
Kashmir	do	488	362	
N. W. F. Province	May 16-Sept. 12	1	1	
Italy, Lléata	Sept. 14-Sept. 20	1	1	
Japan:				
Nagasaki	May 21-Aug. 18	3	2	Two cases and 1 death on Russian war vessel <i>Otvazny</i> , from Shanghai.
Shidzuoka Ken	July 11	1	1	
Yokohama	May 12-Oct. 10	23	15	One case on Japanese ss. <i>Kaga Maru</i> , from Seattle. Ports of call, Hiogo and Hongkong.
Mauritius	May 21-Oct. 8	234	228	
Mexico:				
Bagio	Aug. 17	3		
Sequeros	Aug. 18	3		
New Caledonia	July 26-Aug. 13	88	71	
Peru:				
Arequipa	Aug. 13			Present,
Mollendo	do			Do.
Pacasmayo	do			Do.
Philippine Islands:				
Cebu	Sept. 3	6	2	
Manila	Apr. 11-Sept. 26	124	115	
Turkey:				
Smyrna	Sept. 29		1	
Straits Settlements:				
Singapore	June 14-Aug. 1		20	

SMALLPOX.

Argentina:				
Buenos Ayres	May 1-Aug. 31		32	
Austria-Hungary:				
Prague	May 31-Oct. 17	65		
Belgium:				
Antwerp	do	29	12	
Brussels	June 6-Sept. 19		41	
Ghent	May 16-July 4		7	
Liege	May 23-Sept. 5	3	3	
Brazil:				
Pernambuco	June 3-Sept. 15		50	
Rio de Janeiro	May 17-Oct. 11		259	Sixty-six new cases.
British Guiana:				
Demerara	Aug. 29-Sept. 26	613	4	Feb. 10-Sept. 26, 1,475 cases, 6 deaths.

Cholera, yellow fever, plague, and smallpox, etc.—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada:				
British Columbia, Vancouver.	Aug. 1-Aug. 31	1	
Cape Breton, Sydney.....	Oct. 8.	11	
Manitoba, Winnipeg.....	July 12-July 18	1	
New Brunswick, Lamsdowne.	Aug. 28.	6	Imported.
Ontario.....	May 1-Aug. 31	107	3	
Quebec.....	Sept. 28-Oct. 3	1	
Canary Islands:				
Las Palmas.....	May 16-June 13	46	
Chile:				
Antofagasta.....	May 1-Aug. 31	60	
China:				
Hongkong.....	May 2-Aug. 22	15	4	
Shanghai.....	May 9-Aug. 15	6	
Colombia:				
Barranquilla.....	Aug. 10-Oct. 18	10	Two new cases.
Bocas del Toro.....	June 9-Sept. 15	65	11	
Costa Rica:				
Limon.....	Sept. 3-Sept. 17	2	1	
Siquires.....	Sept. 9.	1	On ss. Altai, from Savanilla.
Ecuador:				
Guayaquil.....	July 5-July 11	1	
Formosa:				
Apr. 1-Aug. 31	8		
France:				
Marseille.....	May 1-Sept. 30	87	
Paris.....	Aug. 2-Oct. 24	9	7	
Rouen.....	Aug. 1-Sept. 30	5	
Germany:				
Bremen.....	Aug. 1.	1	1	On ss. Bremen.
Kehl.....	May 1-May 31	13	
Great Britain:				
Birmingham.....	June 6-Oct. 17	51	2	
Bradford.....	June 6-Oct. 10	168	9	
Bristol.....	June 6-Oct. 3	3	
Cardiff.....	May 2-June 6	28	
Dublin.....	June 6-Sept. 5	46	8	
Dundee.....	June 6-Sept. 12	15	
Edinburgh.....	July 4-July 11	1	
Glasgow.....	Sept. 19-Oct. 30	30	1	
Leeds.....	June 6-Oct. 24	145	5	
Leith.....	Oct. 4-Oct. 10	1	
Liverpool.....	June 6-Oct. 24	204	25	
London.....	June 14-Oct. 24	153	
Manchester.....	June 6-Oct. 24	64	6	
Newcastle-on-Tyne.....do	96	7	
Nottingham.....	May 23-Aug. 1	26	
Sheffield.....	May 31-Oct. 24	15	
Southampton.....	June 14-June 20	1	From ss. St. Paul from New York.
South Shields.....	Aug. 9-Oct. 24	4	
Sunderland.....	June 6-Aug. 15	1	1	
West Harlepool.....	June 14-Aug. 22	5	
Greece:				
Athens.....	Oct. 4-Oct. 10	1	
Hawaiian Islands:				
Honolulu.....	Sept. 1-Sept. 30	3	2	
India:				
Bombay.....	May 19-Oct. 6	193	
Calcutta.....	May 3-Sept. 12	13	
Karachi.....	May 25-June 7	4	
Madras.....	May 23-June 19	2	
Italy:				
Catania.....	Aug. 21-Oct. 22	4	
Milan.....	June 1-June 30	1	
Rome.....	May 24-May 30	1	
Japan:				
Kobe.....	May 23-June 30	5	1	
Nagasaki.....	June 11-June 20	1	
Yokohama.....	Jan. 1-Sept. 19	2	
Malta:				
Oct. 4-17.....	6		
Mexico:				
Coatzacoalcos.....	June 20-June 27	1	
Merida.....	Oct. 11.	1	
Mexico.....	June 7-Oct. 18	153	97	
Tampico.....	July 12-July 25	3	
Vera Cruz.....	July 11-Sept. 5	5	2	One case from vessel from Tampico.
Netherlands:				
Amsterdam.....	July 25-Oct. 17	18	3	

Cholera, yellow fever, plague, and smallpox, etc.—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Cebu	Aug. 1-Aug. 31	8	4	
Manila	Apr. 11-Sept. 26	76	19	
Porto Rico:				
San Juan	Sept. 9.....	2		
Russia:				
Moscow	May 23-Oct. 17	52	31	
Odessa	July 26-Oct. 17	15		
Riga	Apr. 1-June 30		65	
St. Petersburg	May 31-Oct. 10	253	25	
Warsaw	May 16-Oct. 10		39	
Spain:				
Cadiz	May 1-May 31	1		On board ss. Grangeworth.
Barcelona	July 22-Oct. 10		21	
Straits Settlements:				
Singapore	July 12-Aug. 22		2	
Switzerland:				
Geneva	Aug. 16-Aug. 22	1		
Zurich	June 6-June 13	1		
Turkey:				
Constantinople	June 14-Oct. 18		116	
Smyrna	May 25-Oct. 18		498	
Uruguay:				
Montevideo	June 1-Sept. 5	14		
Venezuela:				
Barquisimeto	June 1-July 31			Present.
Bolivar	Oct. 5.....			Do.
Caracas	Aug. 28.....			Smallpox prevalent.
El Coro	Aug. 10.....			Present.
San Felipe	Oct. 14.....			Do.
La Pasena	Aug. 1.....			Do.
Maturin	Aug. 17.....			Do.
Puerto Cabello	Aug. 28.....			Smallpox prevalent.
Quibor	June 1-July 31			Present.
Tocuyo	Aug. 7.....			Smallpox prevalent.
Yaritagua	Sept. 22.....			Do.

Weekly mortality table, foreign and insular cities.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Acapulco	Oct. 17	6,000	6											
Alexandretta	Oct. 10	9,000	8											
Do	Oct. 17	9,000	9			2								
Amherstburg	Oct. 31	2,250	1											
Amsterdam	Oct. 24	543,841	134	11						1		1	2	1
Antwerp	Oct. 10	291,315	53											
Do	Oct. 17	291,315	80	9								1	1	
Athens	Oct. 10	200,000	11									1		
Do	Oct. 17	200,000	13						1					
Bahia	Sept. 19	230,000	91											
Do	Sept. 26	230,000	73											
Barmen	Oct. 17	146,940	47	9					1					
Barranquilla	Oct. 18	45,000	13					2						
Beirut	Oct. 10	125,000	9											
Do	Oct. 17	125,000	11											
Belfast	do	358,693	113							5	3	1	1	
Belize	Oct. 29	9,000	5											
Bergen	Oct. 17	73,000	22	6						1		1		
Birmingham	do	533,039	181								1	3	1	1
Do	Oct. 24	533,039	196							3		3		
Bombay	Oct. 6	766,006	478	52	76			2		3			2	
Bristol	Oct. 24	338,895	81									3		1
Brussels	Oct. 17	575,896	148	13										1
Cartagena	Oct. 18	8,000	9											
Catania	Oct. 22	153,523	74					1	2	4		2		
Christiania	Oct. 17	226,000	36											
Coatzacoalcas	Oct. 24	3,000	3	1										
Coburg	Oct. 17	22,582	1	1										
Cologne	do	400,974	154	24						2	1	2		2
Colon	Oct. 25	8,000	6											
Constantinople	Oct. 18	800,000	181					1		5	2	2	1	
Copenhagen	Oct. 17	500,000	102							1				
Corunna	do	50,000	19	3										
Crefeld	do	110,389	19											
Curaçao	do	31,351	14											
Dublin	do	378,994	145	35						4				1
Dundee	Oct. 10	162,805	62							3				1
Do	Oct. 17	162,805	54							2		1		
Edinburgh	do	327,441	85								4	2	1	1
Flushing	Oct. 24	19,336	2											
Frankfort-on-Main	Oct. 17	308,000	69											
Funchal	Oct. 18	44,049	29										1	
Geneva	Oct. 10	109,199	27											
Glasgow	Oct. 23	786,897	268					1		1	2		11	6
Guayaquil	Oct. 3	60,000	46	8										
Do	Oct. 10	60,000	38	4										
Do	Oct. 17	60,000	37	4										
Halifax	Oct. 31	40,787	18											
Hamburg	Oct. 17	737,328	208								7	1	2	1
Hamilton, Bermuda	Oct. 20	17,535	4											
Do	Oct. 27	17,535	5											
Hamilton, Canada	Oct. 31	55,000												
Habana	Oct. 24	236,000	89	17						3	6			
Iquique	Sept. 26	30,009	57											
Karachi	Oct. 24	108,644	63		5									
Kingston, Canada	Oct. 30	19,374	2											
Lausanne	Oct. 10	49,624	18											
Leeds	Oct. 24	443,559	133	10							1		1	3
Leipzig	Oct. 17	485,139	153	14							2	1	2	
Leith	do	79,552	21	6										
Liege	do	165,214	34	1										
Liverpool	do	716,810	269						1	1	2	2	1	9
Do	Oct. 24	716,810	261						1	1	7	4		4
London	Oct. 17	6,806,296	1,815							19	8	16	16	15
Lyons	do	500,000	135	20						2				
Madras	Oct. 2	509,346	372			1								
Mainz	Oct. 17	87,200	28	4							2			
Manchester	do	554,331	214	11						2	1	4		3
Mannheim	Oct. 10	148,296	47								1	1		
Mazatlan	Oct. 17	20,000	10											
Messina	do	107,000	25	6						5				
Mexico	Oct. 18	368,777	304	20				2	2	2	1		1	1
Milwaukee	Oct. 31	315,000	78	10							1			

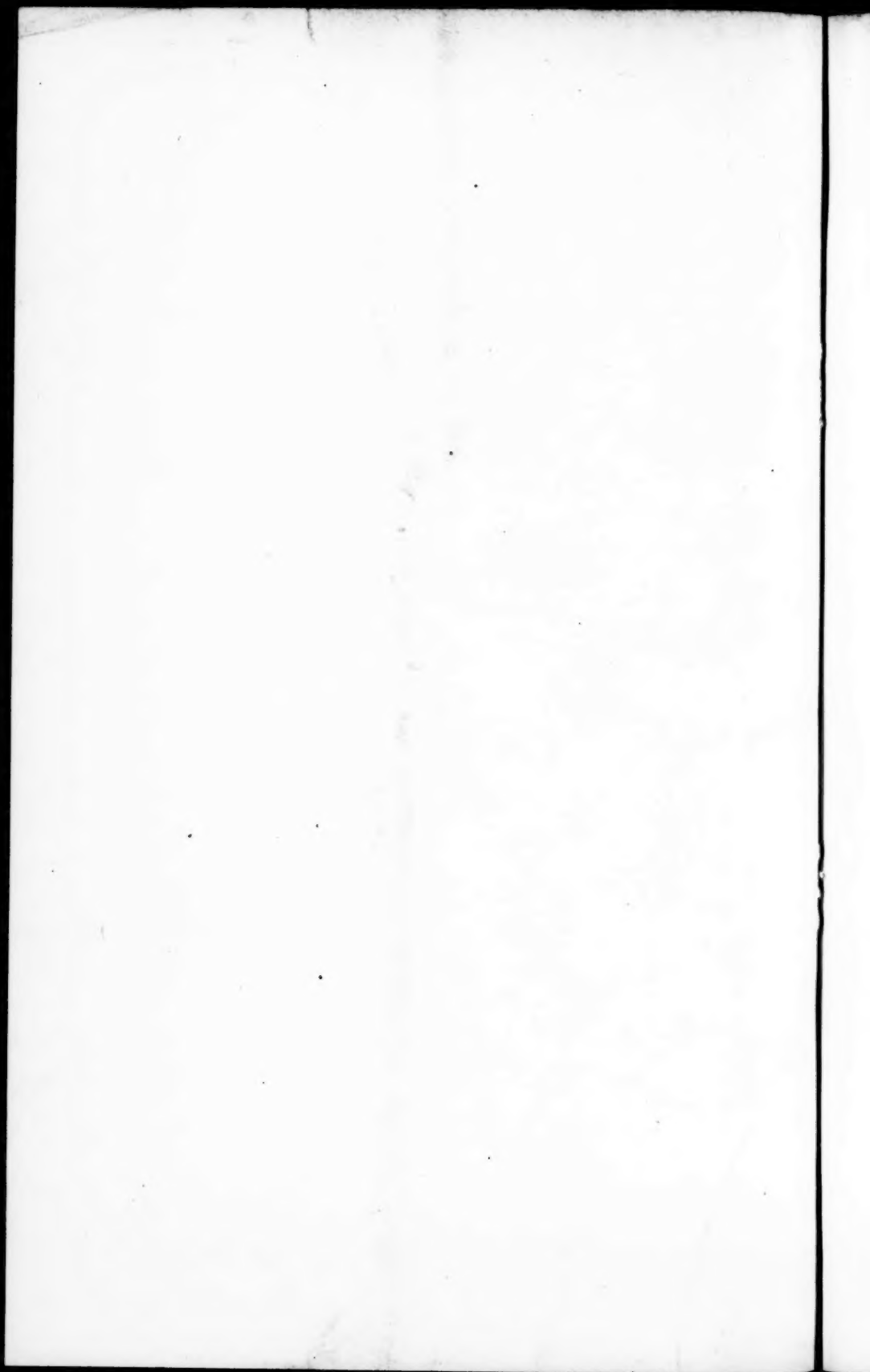
a Estimated.

Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—									
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.
Montevideo	June 13	215,061	63	5						1			
Do	June 20	215,061	58	10						1			
Do	June 27	215,061	70	18									
Do	July 4	215,061	74	13									
Do	July 11	215,061	83	12									
Do	July 18	215,061	70	6						1			
Do	Aug. 1	215,061	67	5						1			
Do	Aug. 8	215,061	68	10								1	
Do	Aug. 15	215,061	75	6						1		4	
Do	Aug. 22	215,061	75	14						1		1	
Do	Aug. 29	215,061	66	12								3	
Do	Sept. 5	215,061	74	6						1	1	1	2
Moscow	Oct. 10	1,173,427	480	7						19	24	6	5
Nottingham	Oct. 17	239,753	83							1	3	1	
Newcastle-on-Tyne	do	219,021	81									1	
Nuremberg	Oct. 10	268,190	119	15									1
Odessa	Oct. 17	475,000	228	28						4	36	5	3
Panama	Oct. 26	20,000											
Paris	Oct. 17	2,660,559	739	204				1		5	1	7	5
Plymouth	Oct. 24	106,000	25										7
Port-au-Prince	Oct. 12	60,000	15							1			1
Do	Oct. 19	60,000	14										
Prague	Oct. 17	232,057	113	26							1		1
Puerto Cortez	Oct. 29	2,125	0										
Quebec	Oct. 31	70,000											
Rheims	Oct. 18	108,385	26	3									
Rio de Janeiro	Oct. 4	800,000	361	59	15		1	47				2	1
Do	Oct. 11	800,000	319	61	16		2	17		2		4	
Rome	Aug. 29	436,554	155	16						7	2		
Rotterdam	Oct. 24	354,808	101									1	
Sagua-la-Grande	Oct. 24	21,342	12	5									
St. Georges, Bermuda	Oct. 10	2,186											
Do	Oct. 17	2,186											
St. John, N. B.	Oct. 31	70,411	18	3								2	
St. Petersburg	Oct. 10	1,450,000	663	124						20	17	12	7
St. Stephen, N. B.	Oct. 31	2,840	1										9
St. Thomas	Oct. 2	11,012	4										
Santa Cruz de Tenerife	Oct. 17	36,500	10									1	
Santander	Oct. 19	53,574	27										
Singapore	Sept. 19	97,111	190	32									
Smyrna	Oct. 11	60,000	143	14				59		1			
Southampton	Oct. 24	110,120	19	2						2		1	
South Shields	Oct. 17	105,325	34	2							1		
Stettin	do	218,000	63							1		4	
Stockholm	Oct. 10	305,115	75	16								2	
Sunderland	Oct. 17	149,526	49	5									5
Tampico	do	20,000	18				3						
Do	Oct. 24	20,000	23				1						
Tuxpan	Oct. 20	13,000	7										1
Venice	Sept. 12	166,522	74	5						4			
Do	Sept. 19	166,522	59	10						1			1
Do	Sept. 26	166,522	65	9						1			
Do	Oct. 3	166,522	63	6						1		1	1
Vera Cruz	Oct. 24	32,000	56	10			12						
Vienna	Oct. 17	1,779,869	513	89								7	2
Warsaw	Sept. 26	756,000	345	28				3		2	20	7	18
Winnipeg	Oct. 24	60,000								1	2		3

By authority of the Secretary of the Treasury:

WALTER WYMAN,
Surgeon-General, Public Health and Marine-Hospital Service.



SUPPLEMENT.

TREASURY DEPARTMENT—PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.



PUBLIC HEALTH REPORTS.

CONCERNING THE GEOGRAPHIC DISTRIBUTION OF THE YELLOW
FEVER MOSQUITO.

By L. O. HOWARD, Ph. D.,

*Chief Entomologist, U. S. Department of Agriculture; Honorary Curator of
Insects, U. S. National Museum; Consulting Entomologist, U. S.
Public Health and Marine-Hospital Service.*

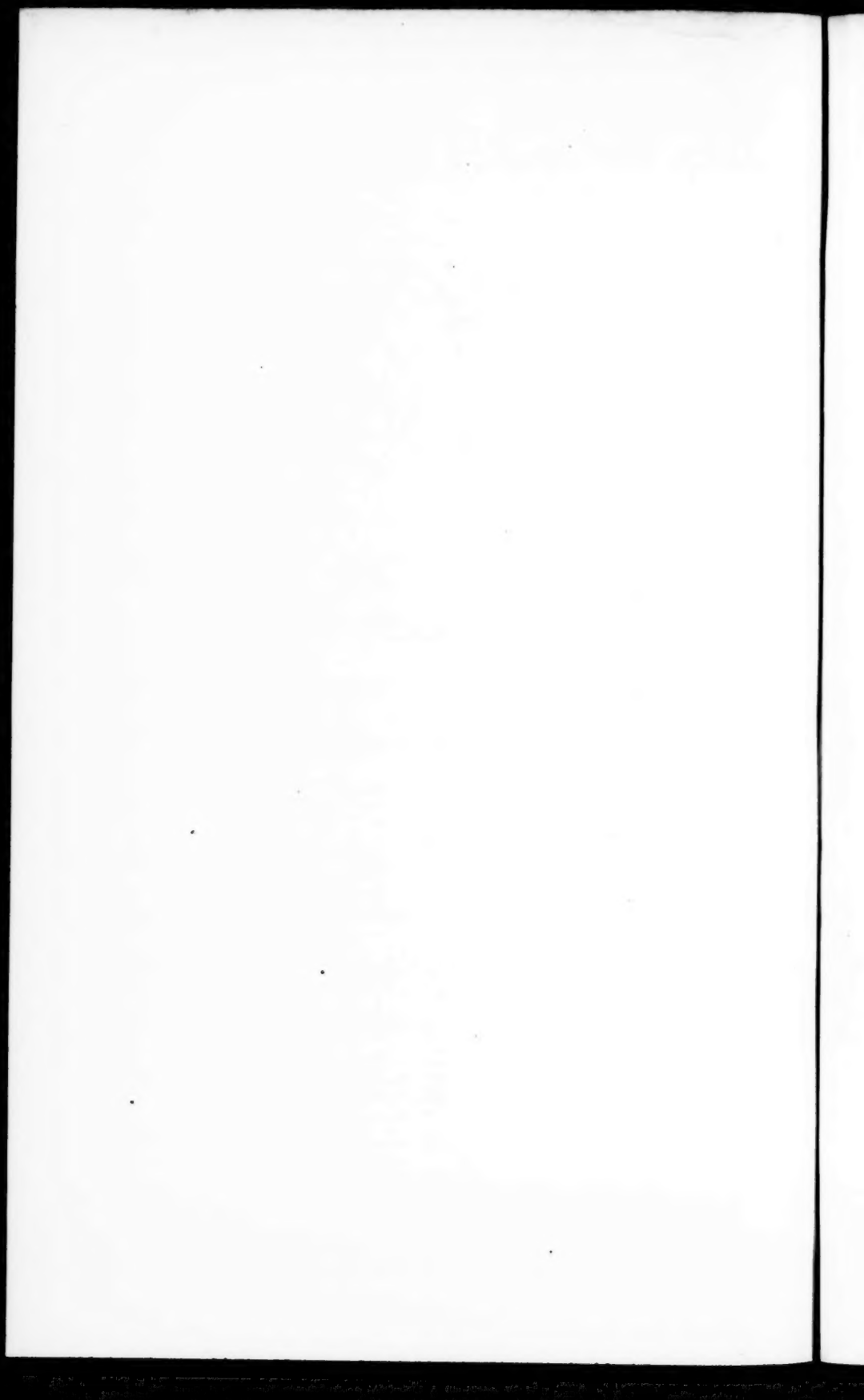
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CONCERNING THE GEOGRAPHIC DISTRIBUTION OF THE YELLOW FEVER MOSQUITO.

By L. O. HOWARD, Ph. D., Chief Entomologist, U. S. Department of Agriculture;
Honorary Curator of Insects, U. S. National Museum; Consulting Entomologist, U. S. Public Health and Marine-Hospital Service.

The proper consideration of this now all-important species must necessarily be divided into two sections; first, the actual present distribution of the species so far as it can be ascertained; second, the exact limitations of the regions in which, if accidentally introduced, it may reasonably be expected to propagate and to become perfectly established. For immediate quarantine purposes the first of these is the most important, but looking to the future, an exact knowledge of the regions which must be included in the second category is obviously scarcely less important.

1. The present known distribution of the species.

When Mr. F. V. Theobald published his two volumes, *A Monograph of the Culicidae of the World*, in 1901, he stated roughly that *Stegomyia fasciata*, which at that time was not known to him as the "yellow fever" mosquito, ranged from 38° south latitude to 38° north latitude, and his map upon page 292, Volume I, indicated a general distribution throughout eastern Australia, western Sumatra, all of Java and Farther India, southern Japan, eastern Hindostan, the Seychelles, southeastern Africa, the African west coast, including Senegambia and the District Lagos, all of Spain, southern Italy, the east coast of South America from British Guiana to Rio de la Plata, all of Cuba, Jamaica, Haiti, and all of the southern United States. In Volume III of this important monograph, published in 1903, the same author includes the following under "New localities:" St. Kitts, Nevis, Antigua, Carriacou (Grenadine Islands), Trinidad (Hewlett), Barbados, Dominica, Montserrat (Low), Luzon, Philippine Islands (September 7, 1901, Miss C. S. Ludlow); Port Darwin, South Australia; Para (Durham); Gambia (Burdett), taken in houses, McCarthy Islands, in July; Victoria, Seychelles (Denman); Nigeria (Hanley);

Fiji (Hewlett). Elsewhere he adds: Tyre and Sidon, Palestine; old Calabar; Mashonaland; Malay Peninsula and eastern Archipelago; Argentina, South America.

In my book on mosquitoes, published in 1901, I gave the then known distribution in the United States, as follows:

In the United States it is common in most of our Southern States. I have seen specimens from New Orleans, La.; Natchitoches, La.; and Napoleonville, La.; eastern Texas; Hot Springs, Ark.; Pelham, Ga.; Virginia Beach, Va.

Since that time many new localities have been discovered, and our present knowledge of the exact localities may be tabulated as follows (those from without the United States being our own records additional to those of Theobald):

UNITED STATES.—*Virginia*: Virginia Beach. *Kentucky*: Lexington. *Illinois*: Cairo. *Tennessee*: Nashville. *Arkansas*: Hot Springs. *Louisiana*: Ruddock, New Orleans, Baton Rouge, Napoleonville, Hammond, Shreveport, Franklin. *Mississippi*: Pass Christian, Summit, Quarantine Station, Biloxi. *Georgia*: Atlanta, Pelham, Augusta, Savannah, Brunswick. *Florida*: Barrancas, Key West. *Texas*: Galveston, Houston, Victoria, San Diego, Tyler. *South Carolina*: Charleston, Sullivans Island. *California*: San Diego, Angel Island (Carter). *Maryland*: Baltimore (Carter)—breeding in fresh water on fruit wharf. *North Carolina*: Beaufort, Winston.

MEXICO.—Tampico, Acapulco, Guanajuato, Frontera, Vera Cruz, La Paz (Lower California), Coatzacoalcas, Pachuca, Tuxpan, Nautla, Tlacotalpam, Mazatlan, San Blas, Carmen, Cozumel, Champoton, Perihuate, Las Penas.

They have been received from *British Honduras*: Belize. *Nicaragua*: Blue Fields. *Costa Rica*: Limon and Bocas del Toro, and have also been received from one of the low-lying localities not specifically designated.

From the *Hawaiian Islands* they have been received from Honolulu and Hilo.

They were collected by my assistant, Mr. Marlatt, in *Java* at Batavia, Soekaboemi, Garoet, and at Singapore, *Malay Peninsula*.

From the *Philippine Islands* they have been received from Iligan, *Mindanao*; and from Haganoy and Bulacan, *Luzon*.

In *Cuba* they have been received from Columbia Barracks, Habana; from Guantanamo, Daiquiri, Baracoa, San Antonio de los Banos, Cayamas, "Yaquaramoa," and the Isle of Pines.

From the British West Indies they have been received from Jamaica and Montserrat.

BAHAMA ISLANDS.—Nassau, Spanish Wells, Harbor Island, Current, Tarpon Bay, San Salvador, Long Island, and Government Harbor.

BRAZIL.—Campinas.

No European specimens have been received, but a very interesting locality has turned up in Ismailia, Egypt, whence specimens were received from Dr. W. C. Gorgas, of the United States Army.

From the above it will be seen that although the actual localities which may specifically be designated from the United States are comparatively small in number, and that although combining Theobald's list with our own, the actual localities from other parts of the world are equally sparse, we have still sufficient facts to enable, in my opinion, a sound generalization, both as to probable actual occurrence and as to regions in which the species will readily establish if once introduced. It will be noticed that all of the occurrences within the United States, except Nashville, fall within the limits of what are known as the tropical and lower austral zones. These life zones include practically all of the southern United States which border on the Atlantic Ocean and the Gulf of Mexico, with the exception of those portions of Virginia, North and South Carolina, Georgia, and Alabama, which constitute practically the foothills of the Appalachian chain; in other words, western Virginia and North Carolina, the extreme northwestern corner of South Carolina, the northern part of Georgia, and the extreme northeastern corner of Alabama. Further than this, the lower austral zone includes the western half of Tennessee, the western corner of Kentucky, the extreme southern tip of Illinois, the southeastern corner of Missouri, and all of Arkansas except the northern portion. It also includes the southern portion of Indian Territory, southern Arizona, and some of northern Arizona, and southern strips in Utah, Nevada, and California.

In the greater part of the territory thus indicated, and *where the climate is not too dry*, *Stegomyia fasciata* will, with little doubt upon close search, be found.

2. *The exact limitations of the regions in which, if accidentally introduced, it may reasonably be expected to propagate and to become perfectly established.*

All the rest of the lower austral territory just indicated, and *where the climate is not too dry*, will constitute a region where the yellow-fever mosquito if once introduced will undoubtedly flourish. Even in the drier portions of western Texas, southern New Mexico, southern Arizona, southern California, and southern Nevada, where the climate is exceptionally dry there is a possibility that this species if once introduced will breed in the water supply of ranches, except possibly where the water is impregnated with alkali.

Having made this generalization for the United States, where through the admirable work of Dr. C. Hart Merriam and his Division of Biological Survey of the United States Department of Agriculture,

the subject of the exact limitations of the life zones has been so accurately investigated, and where these zones have been so carefully mapped out, we naturally may follow it with a corresponding generalization for other countries, where the factors which control the distribution of animal and vegetable life are, of course, comparable to those which exist in the United States. We may expect to find this species everywhere in the moist tropical zone, or at all events, when introduced at any point within the low, moist tropics, it may be expected to establish itself. The conditions which control the distribution of life in the so-called lower austral zone will naturally hold equally in corresponding sections elsewhere, and it becomes necessary to formulate as easy a means as possible of ascertaining a region between the parallels of latitude of 38° north and 38° south whose conditions will correspond to those of the lower austral zone in the United States and which will thus admit of the breeding of *Stegomyia fasciata*. It has been determined by Doctor Merriam that the northern limit of the lower austral zone is marked by the isotherm showing a sum of normal positive temperatures of $10,000^{\circ}$ C., or $18,000^{\circ}$ F. The sum of normal positive temperatures means the sum of normal mean daily temperatures above 6° C., or 43° F. With this rule as a basis we may take, for example, on the borders of the plateau region in Mexico, any given locality or elevation, and may sum up the normal mean daily temperatures above 6° C., or 43° F., and if this sum for the year reaches $10,000^{\circ}$ C., or $18,000^{\circ}$ F., it is safe to say that the locality is within the limits of the upper austral life zone and that the yellow-fever mosquito will breed there.

The minimum temperature of 6° C., or 43° F., has been estimated as marking the inception of reproductive activity in animals; in other words, the formula which we have just given means that the physiological constant of *Stegomyia fasciata* is approximately $10,000^{\circ}$ C. I have, in the opening paragraph under this head, italicized the clause "where the climate is not too dry," for while, as shown by Merriam, the temperature predetermines the possibilities of distribution and fixes the limits beyond which the species can not pass, and defines certain broad transcontinental belts within which certain forms may thrive, *if other conditions permit*, it is by no means the sole factor which determines distribution. Nevertheless, no matter how favorable other conditions may be the species possessing the physiological constant characteristic of this zone can not exist outside. With mosquitoes it is obvious that the factor next in importance to temperature will be moisture, and in the arid Tropics and in the very dry portions of the Lower Austral Zone we will naturally not look for an abundance of mosquitoes, except under artificial conditions brought about by civilization. *Stegomyia fasciata*, however, being a domestic species—that is to say, being practically dependent upon the condi-

tions surrounding human habitations—is less subject to normal conditions of moisture than are the species of the fields and woods.

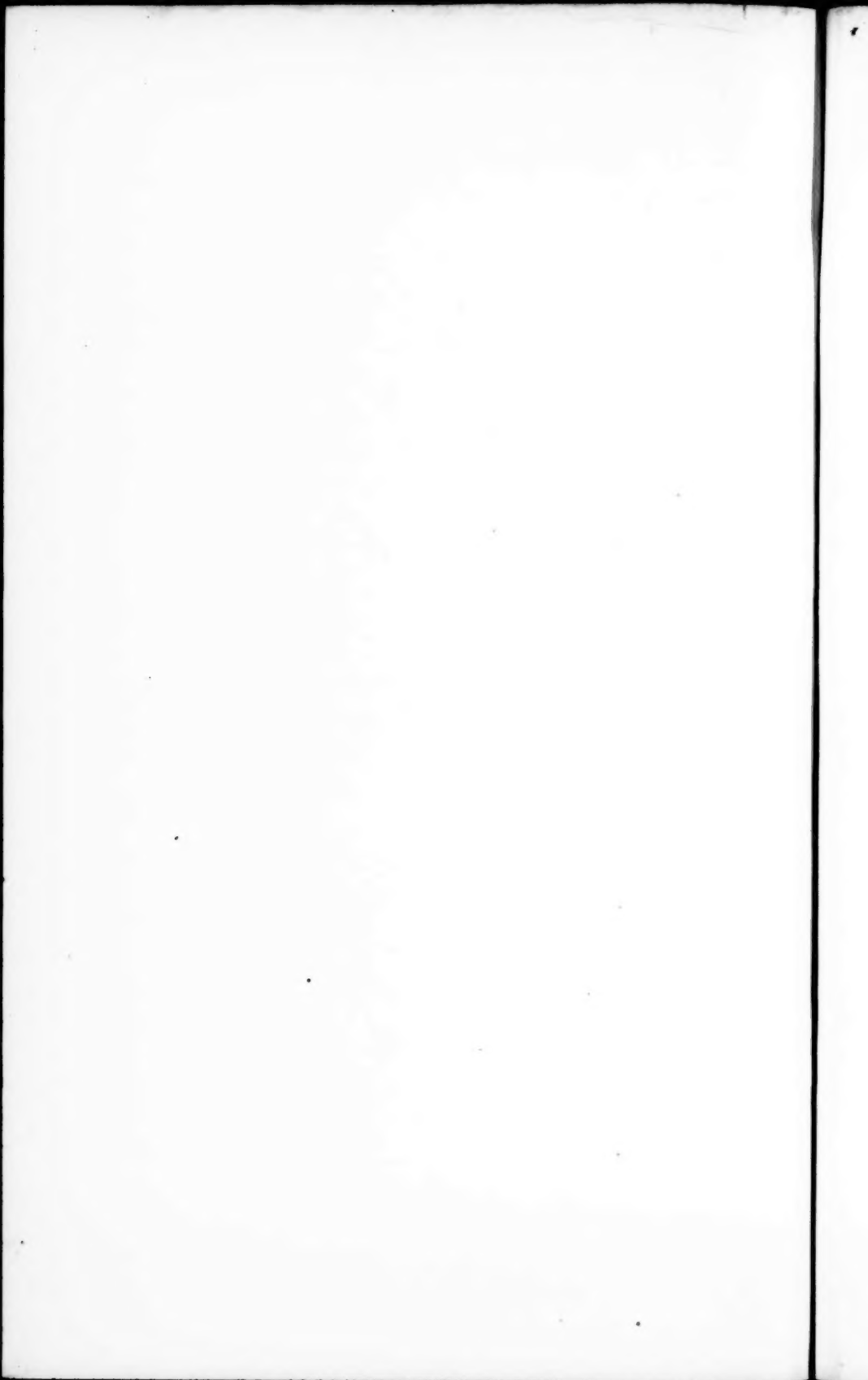
It is interesting to note that the geographic distribution of the yellow-fever mosquito corresponds rather well with that of the Texas cattle tick (*Boophilus annulatus*) which is instrumental in the carriage of the *Hæmatozoan* of Texas fever. That, too, is a creature which seems confined to the tropical and Lower Austral zones.

The southern border of the Lower Austral Zone has not been expressed in a similar formula, but this is unnecessary for the present consideration, since the mosquito breeds readily in both tropical and Lower Austral zones.

The southern limit of the zone in the Southern Hemisphere, corresponding to the northern limits of the Lower Austral Life Zone in the Northern Hemisphere, can probably be calculated by the use of the same formula, and thus in any given locality in the Southern Hemisphere the probable occurrence, or at all events the proper climatic conditions for the existence of *Stegomyia fasciata*, can be ascertained.

I conceive that the facts thus formulated are and will be of great importance in the determination of quarantine measures, and that the careful records which have been urged by the international congress of sanitarians of the American Republics will justify these broad conclusions.

In an article published in the *Journal of Tropical Medicine*, for August 1, 1903, Mr. Theobald gives some further notes concerning the distribution of other species of *Stegomyia*, in which he shows a slightly greater northern and southern distribution with other forms of the same genus, enlarging the field to from 43° south to 43° north latitude. As yet, however, the agency of only a single species, *Stegomyia fasciata*, in the transfer of yellow fever, has been proved. Let us for the present await experimentation with the other species, of which there are nearly a score, before beginning further attempts at generalizations. In fact, it may very likely be shown that these species have not so close a relationship to *S. fasciata* as to warrant the belief that they may be instrumental in the carriage of this disease. In fact the Australian species, *Stegomyia notoscripta*, laying its eggs, as it does, in "rafts," and not singly, as does *S. fasciata*, may very likely prove to be a distant rather than a close relative of the dangerous form.





LIFE ZONES OF THE U BY **C. HART MERRILL**

